LIBRARY
14 APR 1958

MAN IN INDIA

VOL. 33
NO. 1. JANUARY-MARCH, 1953

A Quarterly Anthropological Journal
Founded in 1921 by Sarat Chandra Roy

CONTENTS

Page

Tribal Education
—*K. P. Chattopadhyay* 1

The Negrito Racial Strain in India
—*S. S. Sarkar* 19

Reproductive Life of some Indian Women
—*Tulika Sen* 31

Sex Life of Refugees in a Transit Camp
—*Khagendra Nath Sen & Lalit Sen* ... 55

A Short Study of Blood Groups among Rajputs of Sub-Himalayan Hills
—*S. K. Kaul* 67

Miscellaneous Contributions 73

Book Reviews 85

Edited by
R. C. Roy
D. N. Majumdar
Nirmal Kumar Bose

Notice

MAN IN INDIA invites articles, notes and communications from all those who are interested in anthropology, archæology, linguistics and folk-culture. Manuscripts sent for publication must be typewritten (double-spaced) on one side of the paper with a covering letter specifying the number of reprints required (25 copies of which are supplied free to contributors). The editors do not take any responsibility for views expressed in the articles except for those written by them, but would be glad to serve the information contained in the articles for their scientific interest.

*   *   *   *

All correspondence regarding **Man in India** should be addressed to the editors, *not by name*, to the office of **Man in India**, 18 Church Road, Ranchi, Bihar, India. Arrears and current subscriptions for **Man in India** should be sent to : The Manager, **Man in India**, Ranchi, Bihar, India. All publications meant for exchange with **Man in India** should be sent to Ranchi.

*   *   *   *

Editors : Romesh Chandra Roy
D. N. Majumdar
Nirmal Kumar Bose

Annual Subscription :

Inland :—Rs. 15/-.   Foreign :—25s., or its equivalent.
Single copy, Rupees Four.

NOTICE

Subscribers whose dues are in arrears are requested kindly to remit their arrears and current subscriptions to the Manager, Man in India, 18, Church Road, Ranchi, Bihar, India, so that the continuity of the service may be maintained. Publications meant for exchange must be sent to the office of the journal at Ranchi.

MARA PUBLIC LI
14 APR 1958
MADRAS

TRIBAL EDUCATION

By PROF. K. P. CHATTOPADHYAY

THERE are something like 25 million people of tribal origin in the Indian Union, and a substantial portion of them have remained at a primitive level of economy. Others have partly adopted somewhat more advanced techniques of production from their neighbours and also changed their economy to some extent. A small proportion of tribal folk again, have practically reached the level of the material culture of our ordinary peasantry. In this note the problem of education of the first two groups will be mainly discussed.

Some tribal welfare workers believe that these primitive folk should be left to themselves and allowed to live in isolation. Attempts by us to acculturate them will end in disaster for these people. This was the stand taken by Verrier Elwin and his co-workers until recently[1]. Another School believes that the tribal folk should be treated just like backward Hindus. They consider that tribal languages should be extinguished 'as there is very little of value to be preserved' in them[2].

Social anthropologists in general, however, agree that assimilation by the tribal folk of the better elements of the culture of advanced neighbours should be encouraged, while helping to retain the good elements in the tribal culture. Since adults are more likely to be strongly conditioned socially and therefore less likely to change, introduction of new concepts, habits and technical processes can be more easily accomplished among children and adolescents. This training of the young comes under the head of education. It may therefore be said that the best means of acculturation is through education.

Before however imposing any system of education on tribal folk it is essential to examine the characteristics of educational systems as found among tribes. Such systems are integrated with the rest of their culture. In any contact of people, adoption of new elements, or adoption of old elements to fit the new culture setting, is rendered much easier if the process of change is sought

to be made from what is familiar to the less familiar. This is in consonance with the accepted psychological principles that form the basis of all educational methods. Hence a careful survey of the system of education prevalent among any tribe is necessary before trying 'to educate' the members of it. If these important facts are overlooked, introduction of new educational institutions in the shape of schools may result in a good deal of wasted effort. This is even more likely if school education of the type that fits in with the culture setting of highly industrialized and complex societies of Western Europe is introduced ready-made into tribal areas.

In simpler societies the links between different stages in the life of an individual are fairly visible and can be observed even by the adolescent. In the more complex societies like those of Western Europe it is not apparent to the child how his early training is related to the ultimate end of education, which is to fit him to take his place as a member of society. In feudal Europe, the training imparted to sons of the nobility put this purpose clearly in view. In the Industrial Age with its different social strata, often not clearly separated, and older ideas persisting in the new conditions, the final aim of education became obscured to some extent. If we overlook the basic features of tribal education and impose on tribes the methods and contents suited to a different type of culture straightaway, we shall, as noted before, face a good deal of wastage in effort. At the same time there are certain general resemblances which we can utilize to fit them into a school system.

Education among tribal folk is imparted in childhood largely by parents and elders. From adolescence, formal organized bodies did this work until recently in Assam, Chotanagpore and Madhya Pradesh. As examples, we may mention the Mohsup of Abors, the Nokpante of Garos, the Terang or Maro of Mikirs, the Morung of Nagas, the Zawlbuk of Lushais, the Gitij Ora of Birhors, the Jonkh Erpa of Oraons and the Ghotul of Gonds. In practically every case there was a ceremony of admission. There was also, generally, gradation into novices, moderately experienced and leading groups. In some of the areas the gradation was not formal or well organized. In others it was

well developed. In these latter, generally each grade was spread over three years. The training was given to beginners and also the middle grades by more experienced members of higher grades. The leading group often had formal office-bearers with some division of supervision work.

The content of education or training imparted was intimately linked with the life of the community. It should be remembered in this connection that community feeling is quite strong in tribal villages and is expressed through their social, economic and religious activities. A tribal child learns a good deal of adult activities by imitating the grown-ups, especially parents and elder brothers. When the Santal boy makes a small bow and arrow and tries to shoot small birds, he is practising within limits an adult skilled act. It is not play pure and simple as among our children even in most rural areas. Similarly little girls may be observed gathering herbs and boiling them in a potsherd in some shady outskirt of the village. It is not make-believe cooking but real preparation of food. Somewhat older children, about 10 or 12 years of age, who are employed to look after herding of goats, pigs or cattle set small traps to catch or kill field rats and birds, which are roasted in the field by them and eaten on the spot.

In the better organized institution for adolescents, the participation in adult activities of the community is even more well marked. The youthful members even in the last generation in some areas formed a kind of co-operative group who worked for the entire village and also to maintain their organization. Among Oraons the novices serve as fags and servants in the group and do the unskilled work, gradually picking up more skilled work. At marriage and festivals in a village, they all render service according to their capacity and thereby gain experience and knowledge. Again, if an old man or a widow needs help to thatch the house or cultivate the land, this is done by the organized group in return for payment, usually in kind. Here again the juniors learn these jobs, the seniors guiding them and also themselves gaining in experience. Planned hunting, house repair, cultivation, weeding, reaping, threshing, setting up temporary sheds for festivals, making cups and plates

for guests, and dancing and singing, all come under such training and practice activities. They serve also to emphasize the strong community feeling that binds the villagers together.

There is no formal examination, in our sense, at any stage. But a certain standard of skill has to be attained in all these simple processes, and with a little effort can be attained. Here there is no problem of learning less abstract and more abstract subjects which are suited to different individuals. The regard of the community of adolescents and of the community in the village serves to keep the standard of attainment at a fair level. Discipline within limits was also well maintained. It is not proper to assess its extent in communities where the educational institutions have degenerated and to speak about lax codes therein by our standard.

This linking of education at every stage to later life activities is recognized by all educationists of standing as extremely valuable for the students. It can be ensured in educational institutions only if the training, i.e., education of the children and adolescents is centered round major occupational activities of adult life. I have shown elsewhere[3] that this is a general principle which is essential even for education in societies with a complex culture, like that of Western Europe, and far more so in our country. Since the tribal folk are accustomed to this type of education, we should try to conserve this valuable trait of their culture in our institutions for training their children.

Since all the tribal people excepting a few isolated and small groups are acquainted with agriculture or practise it, and among most of the tribes this form of food production takes the first place not only in economic life but cultural activity in general, we may centre the education of tribal folk round this occupation. There is however a wrong approach to it, through plough cultivation, which is unsuitable for young children and is to be avoided. Also, unless those who take up consideration of the educative value of an occupation like this are acquainted with the culture of simpler folk at first hand, they are likely to say that it offers little scope for training of young children or of co-ordinating study of other subjects like history, social studies and geography. This was the attitude taken in the Conference

of Basic educationists at Poona in 1939, and led to the rejection of agriculture as a basic craft[4]. This attitude has been modified to some extent, but the building up of education round such activities has not been possible due to lack of knowledge of these subjects on the part of the organizers. In the Report of the Central Advisory Board of Education also this has been ignored. They stress merely 'learning through activity'[5]. It has been necessary to note these criticisms as both these systems of education, often referred to by the same term 'Basic', differ in certain fundamental respects from what the present writer has suggested, and have so far not succeeded in ensuring that 'the process of education throughout this period (seven years : K. P. Chattopadhyay) should centre round some form of manual and productive work and that all other abilities to be developed or training to be given should as far as possible be integrally related to the central handicraft chosen, with due regard to the environment of the child'[6].

Syllabus

An outline of a syllabus up to Class IV showing how to link agriculture and farming with school teaching in a tribal area is given in the Appendix. It is equally suitable for our ordinary rural schools. A certain amount of alternative examples have been given there and some adjustments will also be needed according to the actual cultural environment. But in general it will be possible to teach on its basis through an integrated course satisfying the requirements discussed earlier.

Since the cultural life of the adults of the community of which the children will be in school and cultures similar to theirs will figure largely in the content of education, it is obvious that text-books for children and those meant to help teachers will have to be written anew, incorporating in them the necessary information and details on subjects, processes and functions that will enter in the learning and teaching activity of the school. Reference to parallel traits of culture and later to somewhat different traits, needed for acculturation, will gradually come in higher grades, closely following the syllabus laid down. It will be seen from the syllabus that the work done by the

children will be reproductions in a miniature, or slightly modified way, of the activities of adult life in those areas, and will have added to it elements of more advanced people to help acculturation.

Contents of Text-books

At the present moment many text-books taught in tribal schools deal either with (a) culture-contents of more advanced neighbours mainly, or (b) partly with tribal culture, with distorted views of the culture of neighbours. The first defect will be observed in text-books approved by the Education Department of the Government of many States. The second fault will be found in some of the text-books written by Christian missionaries. They disparage the culture of neighbouring Indians in the interest of their evangelical work. A reference to the syllabus will make it clear what kind of text-book will be required. The economic and social structure of the tribe should be carefully studied and traditions, songs, dances, details of rituals as well as games should be collected. The text-books should incorporate the relevant details of their culture, and the activities of children in school illustrate many aspects of the same.

Medium of Instruction

It is hardly necessary to marshal reasons to prove that children can learn far better through the language spoken at home than a foreign language even if they attain a certain amount of working knowledge of the latter. There is no reason why tribal children should be treated as if they form an exception to this rule. Nevertheless, through ignorance, official indifference, and also through political reasons, this elementary rule of pedagogy is being violated in many States. In the Korku area in Melghat forest in Madhya Pradesh, the writer found Hindi used as the medium of instruction. In Assam the Tribal Adviser, who is a Secretary to the Governor, insisted that the medium of instruction should be Assamese, as it is difficult for a non-tribal teacher to master the tribal dialect, and tribal teachers are not yet available in many areas. The simple fact that it is the children who are going to be looked after and that the effort that they have to put in to master a good

working knowledge of the teacher's mother tongue is far greater in total volume, were brushed aside by officialdom. There is reason to believe that political considerations are influencing such decisions in many States. A tribal welfare worker must oppose such narrow short-sighted and harmful attitudes and activities of the persons concerned. They must insist that education of tribal folk should be through the language of the tribe and not the regional State language. The teacher, if he happens to be a non-tribal, must acquire a working knowledge of the same. Employment of non-tribal teachers is unavoidable until education has become fairly widespread among tribal folk themselves. Teaching of the regional language should begin only after the first four years in the Primary school.

Script

In order that literacy may be immediately beneficial by giving access to the literature of advanced neighbours, the script should be of the regional State language. Where however a tribe is scattered in several States, they should be consulted and an alphabet designed best to meet their needs, without multiplying writing symbols. Only those sounds which occur in their language should be represented each by one symbol. The same phoneme should have the same symbol everywhere. Also no letter in such alphabets should have more than one significance.

Methods of Teaching

Since new text-books will be written it will be worth while to avoid some of the mistakes made in text-books meant for beginners in our ordinary schools. The words used in such books are usually selected by the author of those texts for syllabic and spelling drill from among terms considered suitable by him. Since children have already a fair vocabulary in all societies by the time they come to school, the proper course would be to collect their actual conversation at about school age or a little earlier. The words that occur frequently can then be selected for the primers for lowest grades. The writer of the present paper collected such vocabularies for Bengalee children of age three or thereabout and published in 1933 a primer on the basis

of such words. It made learning very easy for its readers, as they were here meeting words and concepts already familiar to them. This again is in complete agreement with the requirements of educational psychology which most primers completely ignore in the matter of vocabularies. For tribal dialects such a selection is even more important as primers are likely to be drawn up by persons not very well trained in teaching problems. In consequence a primer may turn out to be unnecessarily difficult for the children.

A second point to be noted is about syllabic drill and spelling drill. This is often fatiguing and leads to loss of interest of the child. In the primer referred to above, the method of teaching a couple of letters, then a syllable and then a whole word, accompanied by a picture, was used with success. Numerous experiments conducted in schools and private homes showed that this method (vocabulary of children plus this approach) cut down the period of learning to read and write by half. While collection of vocabularies of children to place the list of words to be used on a scientific basis of familar terms, has not yet been carried out, the syllabic and whole word method has been found to be useful in tribal areas in Africa[7].

Acculturation

Reference has already been made to the need of addition of culture traits of advanced people through schools. The syllabus will indicate the lines of the same. Since the greatest need of tribals is improvement of their material condition, and since economic forces are extremely potent in causing cultural change, this part of acculturation will be most important. We may ensure through schools that wherever archaic and primitive tools are employed instead of more efficient modern tools, there should be a progress from the former to the latter demonstrating the advantage gained thereby. The same steps may be adopted with regard to archaic processes of production and their replacement by modern and more useful methods. It has of course to be ensured that the results are demonstrated to be more satisfactory. For this purpose, the school will have to take the help of community centres that will have to be organized in a few larger

settlements, to integrate educational, health as well as economic welfare activities.

As an example of the kind of technical improvement that may be introduced through schools, we may refer to the case of the Khasis. This tribe was formerly unacquainted with the use of the saw, although timber-working had an important place in their economic life. The use of the saw was introduced on a large scale and popularized largely through Missionary technical schools, although some knowledge of it had been acquired in a few places by contact with Hindus.

Care should be taken in dealing with the economic life of tribes to encourage socialized forms of production and distribution which are still prevalent or were so until recently among many tribes. Thus the Hos, Santals and other tribes of Chotanagpore used to allot when dividing the products of organized hunting expeditions, a special share for those families in the village who could not send men due to sickness or death of adults. The present writer found this community welfare spirit expressed through organization of grain *golas* in certain Santal areas.[8] Through modern education and contact with welfare workers these Santals had realized the value of adopting this device from others and applied their community way of life to its working.

Types of Schools

Since the density of population in most tribal areas is low, it will not be possible to have full-fledged four-teacher schools with all the four or five classes therein. Little children in forest or wilder areas may not be able to go more than a mile in most areas. Possibly even over this distance their elders will have to help them reach the school. If the density is of the order of three hundred per square mile, we shall have in a circle of radius one mile, on an average $\frac{22}{7} \times 300$, i. e., 943 or say 950 people. Children of age 6 to 11 will number about 114 in this area. If even two-thirds of this number can be brought to school in the beginning, we can have a two-teacher school organized. In some areas probably smaller units with one teacher will have to be run. In larger settlements, primary schools with the full complement of scholars may be organized. Since the proportion of literacy is

extremely low in most tribal areas, difficulties caused by four classes under two teachers will not crop up in the smaller schools. By the time literacy has made some progress, compulsory attendance should be introduced. This will enable the smaller units to run schools with three classes, or at least with two classes quite full. Every third school should be a larger institution with some hostel arrangement for the children of the higher classes coming from a distance, after completing their study in lower classes in the smaller institutions.

Training of Teachers

It will be wrong to wait for training of all teachers before starting of schools. The main thing will be to equip the teachers with a working knowledge of the language and culture of the area where he is to work and also the socio-historical approach to teaching. Persons who have passed the Matriculation or School Final examination ought to be able to pick up such ideas in a short course of say three months intensive training. But this should not be considered as the end of the necessary equipment. There should be a limited number of well-trained pedagogues whose job it will be to go round to the schools and help by short stays of a few days in each place, during which demonstration lessons should be given both in the class and in the outdoor activity. Improving the equipment of teachers while they are actually at work in schools is the only solution of the problem of training teachers without holding up expansion of schools. The present writer organized in 1926 and successfully carried out this job of training teachers while they were at work in the Corporation Schools in Calcutta during his tenure of office as Education Officer of the Corporation.

It should be evident that community centres to which reference has been made earlier will furnish the best places for the intensive courses envisaged. Refresher courses should also be regularly arranged there each year during the long vacation (of which there will be one at least in all schools).

Adult Education

Adult education should also be integrated with culture as noted earlier. But the words and contents should be taken from

adult activities and interests. The different methods of teaching need not be discussed here, as there is not much difference of opinion in these respects. Special adult literacy text-books should however be drawn up for reasons stated at the beginning of this paragraph.

Central and Regional Committees

Tribal education should be subject to planning and supervision by a central body of genuine specialists who have done field-work and have experience of educational methods and practices. There should also be similar State Committees.

DEPARTMENT OF ANTHROPOLOGY,
CALCUTTA UNIVERSITY,
CALCUTTA

BIBLIOGRAPHY

1. (a) Elwin, Verrier, *The Baiga,* London : John Murray, 1939.
   (b) Elwin, Verrier, *The Aboriginals,* Bombay : Humphrey Milford, 1943.

2. Ghurye, G. S., *The Aborigines—"So-called"—and their future,* Bombay : Gokhale Institute of Politics and Economics, 1943. For other views, see review of the above by K. P. Chattopadhyay in *Science and Culture,* Calcutta University, 1945 ; also T. C. Das, *The Purums.* Calcutta University, 1945.

3. Chattopadhyay, K. P., *Our Education.** Calcutta ; 1948.

4. Hindustani Talimi Sangh, *One Step Forward.* Wardha : 1940.
   See also Hindustani Talimi Sangh, *Sixth Annual Report.*

5. *Post-War Educational Development in India.* Delhi : 1944.

6. Hindustani Talimi Sangh, *Basic National Education.* Wardha : 1938.

7. *Quarterly Bulletin of Fundamental Education.* UNESCO : 1949.

8. Chattopadhyay, K. P., *Report on Santals.* Calcutta : Calcutta University, 1947.

* The Appendix is taken from printed matter in this work.

CONNEMARA PUBLIC LIBRARY
14 APR 1958
MADRAS

APPENDIX

A SUGGESTED SYLLABUS

GRADE I. General and social studies may commence with talk on 1. Human needs (as shown in daily life) of food, clothing and shelter. The staple food—rice, or wheat or millet ; pulses ; a few vegetables including yams, one or two important fruits, milk, fish and flesh. The village lay-out is to be shown to teach directions with reference to the sun. The cultivated fields with crops and the houses, orchards, domestic animals etc. should be shown. 2. Early man's ignorance of food-growing and cattle-rearing. His food collection by digging up roots, collecting fruits, catching fish and killing game. Illustration of his simple tool to dig the earth—a pointed branch of a tree sharpened and flattened at one end by slicing off a portion. With a little change, it is also a simple spear for hunting. A thicker branch, with the heavier end trimmed, is a club to hit or throw. Examples of such tribes in modern times in our country—Birhors of Chotanagpore, the Juangs of Orissa and Kadars of South India. Other people of this type—Andamanese of the Andaman Islands and Veddahs of Ceylon. Their life should be illustrated by pictures. Actual tools can be made by bigger boys (Grade IV) and shown to Grade I. Games can be organized of 'hunters' and 'animals'. The children can also play at collecting plant food—by digging up a small plot of potato or yam ready for turning up. The yam or tuber may be cooked in hot ashes to illustrate primitive cooking without pottery, for none of these people originally had pots. The provinces of the tribes or their location should be mentioned merely as to east, west, north or south of the area, and very far or otherwise. For the first term word-building and sentences on the basis of terms already familiar should suffice. For the second term, besides simple tales, reading matter about food, about home life, about life of one of these tribes can be included. For nature study the food plants may be recognized, including their parts. Their changes in different parts of the

year may also be observed very generally. Arithmetic at this stage being mere counting and use of the simple rules up to a total of not more than twenty at first and one hundred at the end of the year should be linked up with all these class activities. Drawing in this class will have to be limited to filling in outlines by rubbing.

GRADE II. The origin of domestication of plants may now be incorporated in the talks. Someone had thrown away a root ; or the seeds of a fruit had been dropped after eating the pulp. A plant has come out. Some early genius realizes from these facts that plants can be made to grow and food rendered available at will. Probably it was a woman—the mother who remained at home. She experiments and succeeds and others follow suit. The tool for planting and turning up the soil is still the simple sharp pointed branch of a tree—the digging, stick, as it is called by anthropologists. The Mal Paharias of Rajmahal Hills use a digging stick of this type to plant maize and other grain (even though they know the use of the plough). Juangs also probably used such a stick earlier. The digging stick may however be flattened more at the tip and become a spade. Another useful and simple tool used by primitive tribes is the forked branch of a tree, with one fork sharpened. It is a wooden pick. If the edge is flattened it it becomes a hoe (*kodalee*). Such tools are used by the Red Kaffir tribe on our north-western frontier for turning up soft soil and were formerly employed by the Swedes in forest areas for cultivation in fairly recent times and by Egyptians in the very distant past. The children may be told simple stories of the life of these people of our homeland as well as outside.

A wooden tool cannot however have its tip broadened or sharpened much as it will break and only a little earth can be turned up by it. When metal was discovered, especially iron, the tip was broadened and protected with iron or replaced by iron. A broad spade of wood faced with iron is used by the Kashmir peasant ; the Baluchi uses a spade made entirely of iron. The Kharia of Chotanagpur uses a digging stick with an iron point. The Savara employs a narrow *kodalee* with an iron blade. A broad iron hoe is used by the Khasi of Assam

and the Newar of Nepal. It is also the main tool of cultivation of the Negro tribes of Africa, of the Polynesians and the Amerindians (until European penetration). In Oceania iron could not be smelted and turtle shell or stone was used in its place. Stories may be told of shifting and settled cultivation and how both types required close co-operation of the different families. Stress may thus be laid on the value of collective work in agriculture for common welfare and how our simpler folk have always known it. The children can use the garden spade (*khurpi* and *khanta*) and turn up the soil and plant seeds. They may also prepare seed-beds in small adjacent plots (co-operative basis) and perform the simpler agricultural processes like watering the seedlings, weeding and transplanting. Nature study may proceed on the basis of more detailed observation of germination, growth and maturity of the food plants and the effects of the seasons on them. The making of an iron point for a digging stick, or of a *khanta* blade may be demonstrated in the smith's shop by boys of the highest class (VII). In Grade II the children may be shown how the Birhors make fibre rope, and they may do it from prepared fibres. From twisting fibres, an easy transition is possible to continuous twisting by means of the *takli* and making of thread. The children should be told about life of Juangs and how they had no clothes until recently. The men wore a strip of bark between the thighs and the women a girdle of fresh leafy branches. The children can play at Juangs by putting on such dresses over their shorts. Bark cloth was also used by Garos. Reference may be made to the mention of use of bark cloth by Rama and Sita in the Ramayana tales. In summer, when gardening will be strenuous for children of 8 years, handwork with light materials can be done, including (a) spinning with the *takli* and (b) plaiting palm leaves in simple check and twilled patterns. The yarn and the leaf mats will be useful products.

Along with these studies, the children will be shown the actual food-growing process in the villages and some details of the number of acres etc. under different crops, with average production. The details should be within the limits of Arithmetic work possible in this class. It should be borne in mind that

'mixed' addition, subtraction, multiplication and division can be started early, provided the sums are very simple and the computations do not exceed the limit for the class. Some idea should also be given of the history of the places of note, such as mosques, temples, markets, in the neighbourhood in terms of age counted in generations or decades as found suitable.

Part of the materials used for talks on social life of other people and of the agricultural processes, folk-tales of tribes, tales of notable persons of the province, will meet the need of material for a reader. For oral self-expression, the children may describe what they observe or perform. In this form, children should also be shown how villages, lanes, fields, may be indicated on a sketch plan, and what a map means explained to them. The habitat of the tribes may be indicated on a map of India, merely mentioning the State and indicating its location with reference to the side of the school.

GRADE III. In this Grade, the talks may start with Veddahs who formerly lived in rock-shelters. Children may be told of other people who lived in very rude lean-tos or break-winds, such as the Australians. A leafy branch of a tree may be put on another branch or a natural shelter under a leafy shrub shown to illustrate it. Next, a palm leaf mat (or several such, if small) may be supported on a rude structure of one or two poles to illustrate the type of shelter early man used. Children can use these in games of the type earlier mentioned. Next, they may make a small model gabled hut with wall and thatch of mats on a framework of sticks. A mat may also be bent into a half cylinder and fixed by pins and sticks to show how this makes a shelter—as on bullock carts, and also in the Toda house. The children may then be told how Birhors and Veddahs are now taking to plough cultivation. Along with this there should be a talk on the origin of the plough. In countries where the ground is soft, it is easier to drag a narrow-bladed hoe to make a continuous furrow than to dig it by repeated strokes. In some parts of the ancient civilized world, where conditions were of this kind, man got the idea of dragging a hoe (or a spade with a beam) behind him. Ancient Egyptian sculptures show men dragging such tools. The soil on the banks of the Nile is inundated

annually and remains very soft and fit for such cultivation thereafter. Children may be told about our inundated areas which are cultivated for rice and should be shown the effects of such inundation during rains. How such natural inundation forms the basis of irrigated cultivation can be demonstrated by visits to village fields. The ridges for retaining water and for controlled irrigation may also be made in the school garden by boys of higher forms, and boys of Grade III may observe the process. Talks may be given about how the Mundas and Newars practise irrigated cultivation, make terraces in their hill-sides and lead the water from long distances in co-operation. Similar co-operative efforts at irrigation by an entire village may be quoted from among Santals. The importance of irrigation for welfare of the peasantry may be pointed out here. A tale of Chandragupta Maurya who had such dams for irrigation made in Gujarat may be mentioned. Rough idea may be given of the date of Chandragupta in centuries. Also tale of his triumph over Greeks, to stress that a king who looks after welfare of the people is victorious against enemies. Talk on irrigation projects of Firoz Tughlak and of the modern Sukkur barrage and other suitable local examples.

Nature study may be extended to variety of crops and different modes of cultivation, dry and wet. These may be shown in the village. Manuring and its effects may be mentioned and observed. Life-cycle of simple insects, some of which are crop or plant pests, may be observed, e.g., the caterpillar (and butterfly). The mosquito may also be studied and talks given on the way it spreads malaria and how this can be stopped. The children may turn up soil with the hoe in small plots one for each group, besides weeding, transplanting and helping in other ways. They can grow winter vegetables like *sag*, or beans, cauliflower etc., on co-operative system. For hand and eye training the children may pass on to spinning with the *charkha* along with preparation of cotton for slivers. They may also do simple jute weaving, on a small fixed frame, where the warp is fixed, merely extending the palm leaf plaiting technique of the earlier grade to jute weaving. Linked up with this work may come talks on weaving and how simple

looms of this type are used by Tibetans. A talk on life in Tibet may follow. Its different geographical condition and adjustments may be described. In contrast, rain-swept Bengal and arid Rajputana may also be described. There is no need—as many of our official and non-official syllabus-makers have done—to teach the Indian boy about Esquimaux for life in snow-bound areas or of people of Sahara or Kalahari for desert life. As regards Geography, the study of the locality may be linked with the nearest important trade-centre, railway station, river and the administrative headquarters. Idea of thana, sub-division and district may be formed in this way and the different districts of the state shown on a map.

GRADE IV. Talks may be given on domestication of cattle. The teacher will describe how domestication became possible through keeping of pets and desiccation of some areas. Children may not have pets in the school but most village children keep pets at home. So it will be a subject of interest to them. The earliest pets were probably birds or young of animals which had been captured but not killed and were not eaten up later. Some animals breed in captivity (as dogs, cattle, horses or poultry), others (as elephants) do not. Some are also more useful than others. Through a process of selection man got the dog as his hunting companion, and cattle for flesh food at first and later for milk. The horse was used for flesh and transport (riding) in some areas but also for milk in Central Asia, the land of the wild horse, where it was probably first tamed. Once big animals like the bull, the buffalo or the horse were tamed, the development of animal-drawn ploughs followed quickly. Ths Amerindians had crossed over to America before such domestication took place and they had no such suitable animal in the New World. The Polynesians who originally went from India and Indonesia could not keep plough cultivation although their ancestors had migrated after the discovery, as they had no domestic animals in their islands. Talks on lives of these people in different lands may follow and some idea of chronology of the New Stone Age and of modern culture may easily be given in millenia, explained in terms of generations. Talk on the ancient area of civilization, the 'Fertile Crescent'

(extending from Egypt, through Palestine and Syria to Iraq), the Indus Valley. The Mohenjodaro people and their culture. Their lack of knowledge of iron and their use of copper tools.

The children may observe ploughs of common types and other agricultural implements like clod-crusher, the leveller and the harrow, all drawn by cattle. The actual operations are also to be shown to them in village fields, explaining their significance. They may continue their cultivation of vegetables in small plots as in the earlier Grade and extend the crop of vegetables of summer and the rainy season as well. For additional handiwork they may weave on fixed frames things like *ijarbands* and small towels. As such looms are of light construction, those parts which require sawing and planing may be done in the two top Grades, but the children of Grade IV may help in hammering and fitting. Small repairs to *charkha* may also be learnt at this stage, as also fitting of handles (not making them) to various tools.

For Geography teaching, the children should be shown on maps the location of Egypt, Greece, Indonesia, Australia and America, and lands of which they have heard names in connection with their social studies. Inside India, greater details regarding production centres of crops and of industries should be given to the children, linking up the studies with things in actual use in the village. Means of communication and transport should also come in naturally, while the study of movements of the sun causing seasons will also be made in connection with agriculture.

Special notes on Hygiene, Civic training, Grammar, Arithmetic and Geometry have not been put down as the teaching of these subjects do not form special problems. For the mother tongue the special studies and other activities will furnish enough material. Very detailed notes have however not been given about craft-linked social studies, with co-ordinated Geography teaching, as this is not properly understood especially for agriculture.

THE NEGRITO RACIAL STRAIN IN INDIA

By S. S. SARKAR

Department of Anthropology,

Calcutta University

Introduction

THE question of the Negrito racial strain in India has been raised since the latter part of the 19th century, but unfortunately research on the question seems to have been inadequate. What little there is, goes to the credit of Dr. B. S. Guha (1928, 1929). His work has been chiefly anthropometric ; but much of his basic data remains unpublished.* While so little is really known on the Negrito question in our country, it is unfortunate that the existence of the Negrito strain is being propagated in recent official vernacular publications as a settled fact.

Before Australia was well known anthropologically, Topinard believed that there were woolly-haired people among the Australian aborigines and De Quatrefages also held the same view. As we trace the history of the Negrito racial element in this country we find that it was in De Quatrefages that the above hypothesis had its origin as early as 1877.

Earlier sporadic references

Since the first assumption of an autochthonous Negrito element at the 'substratum of the Dravidian and other populations in India and along the southern slopes of the Himalayas' by De Quatrefages in 1877, there have been from time to time references to sporadic cases of frizzly or woolly hair in this country. All these were summarized by Keane (1896) in this *Ethnology*, and it will be worthwhile to represent the then differences of opinion

*Guha in the Census Report, 1931, I, Pt. III (1935) has not published any details of the Kadar anthropometric data although values of Co-efficient of Racial Likeness were calculated on them. In his 1929 note in *Nature*, he mentioned having measured 157 men and women, while in the Census Report (p. xlviii) he 'measured over 112 males and 31 females'. The Kadâr population in 1931 consisted altogether of 267 souls.

in the form of a table. It is interesting to record here the opinion of V. Ball, as early as 1895, when he referred to the 'worthless nature of the evidence relied on by De Quatrafages'. It is also remarkable that all of them, including Guha in recent years, have attempted to prove the presence of a racial strain from the solitary character of the hair form alone.

TABLE 1

For Negrito	Against Negrito
De Quatrefages (1877) first proposed on the basis of some 'mopheaded' Veddas of Ceylon photographed by Mon. de la Croix.	E. Callamand (1878)
James Dallas (1885)	F. Jagor & G. Koerbin (1887)
George Campbell	V, Ball (1895)

In 1909, Keane expressed his doubts in the following words : 'But it may be doubted whether any woolly hair, such as is common to all known African and Oceanic Negritos has yet been seen in India proper'. During the years 1903-04, Lapicque carried out a survey among the Kadars and suggested the existence of a primitive Negrito race. His findings were published by him in 1905. In 1906, however, he modified his views and stated that he did not find a Negrito group similar to the Andamanese but only a bastard population. The relevant portion of his writings was quoted in this country by Thurston (1909) in his Introduction to Vol. I of the *Tribes and Castes of Southern India*, but was apparently not known to Dr. Guha who only came to learn about Lapicque's researches during his stay in Paris (p. 1) when he only came across Lapicque's earlier view of 1905. It is worthwhile giving here an English rendering of Lapicque's views as quoted by Thurston :

'In the mountains of Nilghirry and of Anemale, situated in the heart of the Dravidian country, have been noticed since a long time ago, short woolly-haired savages, whom one may consider, on the insufficient records available, as being Negritoes. In reality, there is not in these mountains, nor probably in any other part of India, any evidence of a primitive race comparable in purity to the Andamanese or to other Negritoes. What one

finds there is simply,—but it is very precious,—a cross-bred population which continues up to the Parias of the general series of India. In the fringes of virgin forests, or in the hills partly cleared, there are half-savage demi-Paria castes. They rank below Paria in the social hierarchy. It is possible also to find groups in which characteristically Negro facial aspect is definitely predominant. In these groups the hair is usually frizzly and a few have hair which may even be called woolly. One has then the means of prolonging in imagination the series of Indian castes upto a primitive type which formerly existed (we have only one step to take to reconstruct it)...We have thus arrived at reconstruction of Negro traits of a type which has disappeared, by prolonging a series of mixed population. By the same method we can determine theoretically the form of the skull of this type. With a sufficiently large degree of certainty I can affirm, after numerous systematic measurements, that the primitive Negro of India was sub-dolichocephalic with an index of about 75 or 76. His stature, more difficult to define precisely because the conditions of life modify this character, might be small, higher than that of the Andamanese. As regards the name which should be given to this type, the discussion of social and linguistic facts on which is founded the Dravidian notion, enable us to establish that this Negro was anterior to Dravidians. He should be called Pre-Dravidian or if one wishes to give a name not linking him up with another people, one can call him Negro-Paria.'*

In the meantime, the Sarasin brothers completed their monumental work on the Veddas of Ceylon (1893) and they denied the presence of any woolly hair in India. Turner's (1905) craniological studies also led him to a similar conclusion. Thurston also denied the presence of any woolly hair in South India.

Keane, who formed the opinion given above in 1896, became an ardent supporter of the Negrito 'substratum' sponsored by De Quatrefages. Apart from his other writings, Keane (1909) utilized the opportunity of pressing home the Negrito theory in an Indian publication and that in which the Kadars appeared

*I am thankful to Prof. K. P. Chattopadhyay for the English translation.

first of all, namely, in his Introduction to L. K. A. Iyer's *The Cochin Castes and Tribes*, Vol. I. He suggested in chronological order the arrival of the various races in India. Of these 'a submerged *Negrito* probably from Malayasia' were the first to arrive. He also identified the Veddas of Ceylon, the Paniyans of Wynad, the Kadars and Malsars of Coimbatore and Cochin, the Kurumbas and Irulas of the Nilgiris, the Malayalis, Pallis, Shanars, Katumaratis of Salem district, the Vellalas of Madura as possessing Negroid traits.

Risley (1915) denied the presence of any woolly hair in India. Haddon (1924) reduced the long list of Keane, referred to above, into one, namely the Kadar ; but he had his own doubts about the correctness of the Negrito origin. There is no mention of it in his revision of Keane's ***Man* : *Past and Piesent*** (1920). Howells (1937), who subjected Risley's anthropometric data to morphological analysis, writes : 'For specific examples may be taken the Paniyan and Kadir tribes. ... The one fact which weighs most strongly against the belief that the jungle people are of Negritoid origin (though not so much against a Semang or Sakai connection) is their general dolichocephaly'. Hutton (1927) attempted to substantiate on physical, cultural and traditional grounds a Negrito substratum in the population of Assam. In 1928 and 1929, Guha again raised the question of the Negrito racial strain in India, which, since the days of De Quatrefages, had been finding more opponents than supporters. We will discuss these recent cases in somewhat greater detail.

In recent years, von Eickstedt has raised more than once a protest against the Negrito racial strain and it is rather surprising that his writings have been consistently ignored by official anthropologists in India, who generally avoid discussion with those who disagree with them. Eickstedt (1939) in his Introduction to L. A. K. Iyer's Volume II of the *Travancore Castes and Tribes* has very ably traced the historical background of India's racial history and the anthropological nomenclature. Eickstedt's analysis shows the manner in which Lapicque has been quoted (also by Guha) both against and for the Negrito theory. His conclusions are worthwhile quoting : 'Genuine Negro frizzly hair therefore naturally never has been found in

South India, but spiral hair, the relation of which to the hair forms of other contact races like the Melanesids has already been pointed out in 1929 by the author. The problem probably could only arise because the distinguishing words, spiral, woolly or frizzly, had been applied in a vague manner'.

Recent sporadic references

Among recent observations, the first reference to Negrito woolly and frizzly hair is that of Hutton from among the Nagas of Assam. He has however recently contradicted (1946) the generalized statement of Guha who ascribed the majority of this character to the Angami Nagas alone. Hutton published only two photographs, which are however not very clear, and the hair form alone was his sole physical criterion. It is always desirable in such cases to take out a bunch of hair from the head and photograph it separately. Martin (1928) has shown the method and in controversial questions such a method of representation is extremely desirable.

The next references to woolly and frizzly hair are from Guha. In his case as well, the photographs published in *Nature* are not clear enough to demonstrate the 'pure woolly' nature of the hair. Apparently, Guha changed his observation regarding woolly hair subsequently, as there is no mention of any woolly hair in his 1935 report, although in his 1929 note in *Nature* he wrote : 'Of the short woolly-haired type I am not so certain'. The photographs, published in his 1935 report, however show the frizzly hair of two Kadars. There is a slight discrepancy in his statement also. In his 1929 communication in *Nature* he mentions 16 individuals with Negrito hair from, whereas in his 1935 report he mentions 15 cases instead. The detailed anthropometric study of these people, promised by him in *Nature* (1929), has not yet appeared and one wonders how a controversial question of such primary importance can be left unattended to for nearly quarter of a century. He, however, has been eloquent in upholding the Negrito substratum, as Keane did towards the early part of the century. There have been several publications by Guha, both in English and the vernaculars, where nothing more than the opinions expressed in the

1928-29 issues of *Nature* have been repeated. Under these circumstances, the Negrito racial strain, so often claimed by Guha, still remains to be established scientifically. Sir Arthur Keith's view is worth quoting in this connection. In this review of Guha's findings (1935) he said: '(5) A type which differs from the last only in its small make of body and in its tendency to have the hair spirally curled. The type is best seen amongst the Kadars and Pulayans of the South. This is but a variant of Type 4; every stage between the two occurs.'

Type 4 mentioned above is akin to the Veddas and predominates among the tribes of central Southern India.

The last of the recent references to Negrito hair is that of the present writer (1936). My own case too suffers from defects similar to those mentioned above, for an isolated characteristic as such does not yield any evidence of a racial strain. I had never the opportunity of correcting myself and I was only aware of the shortcomings of my paper when I came under Prof. Eugen Fischer in 1938-39.

Apart from the hair characters mentioned above, Cipriani (1938), in a brief abstract, the details of which have not so far appeared in English, mentioned 'Negroid features' among Toda women. This is a singular observation in face of the many works on the Todas by eminent scientists, who, as far as the present writer's knowledge goes, have never referred to any such Negroid association.

In presenting the sporadic cases of frizzly or woolly hair, all the authors have completely ignored Eugen Fischer's work entitled *Die gegenseitige Stellung der Menschenrassen auf Grund der mendelnden Merkmale,* published in 1932; otherwise some factual data in support of the mutational hypothesis of Fischer might have been found. Fischer postulated the mutation of woolly hair from the wavy hair of the Veddas and there were at least three such independent mutations in the Australoid stem according to him. Rita Hauschild (1939) has shown the difference in the genetic behaviour of the Negro curly or frizzly hair in contrast to the ordinary curly or frizzly hair in her studies of Negro-Chinese, Negro-Indian and Chinese-

Mestizo crosses in the West Indies and is of opinion that the above phenotypically similar hair forms have independent phylogenetic origins. This observation all the more supports Fischer's earlier hypothesis of independent genetic origin of the curly or frizzly haired peoples of Africa and the Melanesian Islands. As such, further researches on the heredity of the frizzly or curly hair form sporadically met with in this country can only solve the present question. Whether it is another independent mutation, only further researches can show. Mohr (1932) has shown the mutation of such a woolly hair in a Norwegian family free from any Negro strain and none will dare speak of a Negro strain in Norway.

Till such an enquiry is carried out, the Negrito racial strain —on the basis of the hair form alone—cannot be so eloquently asserted, as it is apparently being done now. Much has already been said on the extreme meagreness of the data. Nothing is known of the familial relationship of Guha's 15 or 16 Kadars showing the so-called Negrito type of hair. If these individuals happen to be related, Guha's frequency of Negrito of about 10% will be much less. The Kadar population of 267 souls only in 1931 warrant a close familial relationship in the sample.

The Kadars have been the subject of a recent ethnographic study be Ehrenfels (1952) who appears to have been highly impressed by Guha's opinion about the hair form of the Kadars. Ehrenfels has indulged in the most sweeping generalizations on the Kadar hair form. On page 24, he has mentioned the woolly character of the hair of the Kadar women in a most generalized manner. In Plate VII/C mention has been made of 'kinky' hair in a boy having parents with curly hair, although it is apparent from the photograph in the father only. The same parents have been described on page 95, where the father's head hair is mentioned as 'frizzy, almost woolly' while on page 99, the mother is described as having woolly hair. The author has used the terms curly, frizzly and woolly in an extremely loose manner and the reader finds himself in difficulty with regard to the real hair form in the extremely indistinct photographs. The author has also indulged in

certain remarks on Negritoid features as contrasted with Proto-Australoid features on grounds which are equally vague. So little is known of the somatic characters of the Kadars, excepting those published by Thurston, who denied the presence of any Negrito strain, that it is very hazardous to speak of any racial affiliation. Both Guha and Ehrenfels have worked among the Kadars of Perambiculam and the many illustrations of the latter, indistinct though they are, do not appear to show a frequency of about 10% of frizzly hair as claimed by Guha. Out of about 50 illustrations given by Ehrenfels only one appears to show a certain amount of frizzled hair, and that too is doubtful from the photograph.

Skeletal Remains

No authentic skeletal remains of the Negrito race have yet been found in India although Guha has cited two such instances. We will examine here how far this evidence is satisfactory.

In his 1935 report, Guha supported Hutton's findings about the Negrito substratum in Assam with his own findings of a Negroid element in the Naga human relics (Guha & Basu, 1931). The latter authors found two racial types among the Naga human relics which were called Group I and Group II. Group I was Mongoloid while Group II has been called Proto-Australoid or Australoid (pp. 16, 19). On page 16, the latter group has also been described as approaching the Mohenjodaro skulls of the Proto-Australoid type 'in the great depth of the sub-glabellar notch'. This clear Australoid type, which the authors acknowledge more than once, has not been compared with any Australian skull but has been compared with Tasmanian and Melanesian crania, probably on the basis of 'close cultural affinities between the Naga Hills and Oceania, specially Melanesia' (p. 21). But how can Australia be excluded for Australoids ? On the concluding page (25) of their report, the authors' remarks are as follows : 'As a result of these comparisons the Group II of the crania agrees with both the Melanesian and Tasmanian skulls in the formation of the lower forehead and nasal root, showing undoubted "Australoid"

characters in these respects'. Just a few sentences after this, we find : 'Taking everything into consideration it seems not unreasonable to assume that the Negroid element, as revealed in the Papuan and Tasmanian skulls, was fairly extensive at one time in India from the North-East Frontiers to the South-Western extremities and that this element must have been driven into Oceania by later movements of people—persisting only in a few isolated tracts to which these movements had not penetrated'. Let the readers judge what they can from the above quotations and here the authors have tacitly assumed that the total number of 6 male skulls of Group II in comparison with the 55 male and 24 female skulls of Group I belonged to the N. E. Frontier and that they cannot come from outsiders or foreigners, inspite of their remarks on page 3.

Further, the authors have not differentiated between Papuan and Melanesian racial characters at all. Though comparison with Papuan skulls were in view, the authors have by-passed Dorsey's (1913) data with a brief mention and actual comparison of the composite facial profiles has been made with New Caledonian skulls. The selection of the four dolicocephalic crania for the above purpose is not without objection. Sarasin found about 30% brachycephaly in New Caledonia, though the mean cephalic index is 76·5.

Guha has taken the opportunity of repeating his discovery of frizzly hair in Cochin just prior to the second quotation given above. Since he has raised the question of hair form here, one is reminded of Melanesia possessing all hair forms—wavy, frizzly and woolly—and the four selected New Caledonian crania might have had any hair form. It will be evident from the above details that his first reference to 'the presence of a definite Negrito strain' is probably Australoid and not a Negroid one.

Guha has, in the second instance, (1947) ascribed the Jewurgi skull, discovered and published in the form of a drawing only by Meadows Taylor (1873), as 'showing pronounced Negroid characteristics'. Taylor has offered no data excepting the tradition of a race of dwarfs and the mere drawing *in situ*. Guha has not mentioned anything of the Negroid characteristics. The skull appears to have undergone some amount of deformation,

as seen in the flat occiput, incurved from about the region of the parietal tuberosity, which may be artificial or pathological or may be due to the pressure of the superimposed structures. Nothing can be made out of the facial region above the alveolus. It is thus difficult to assign this skull to any racial type from such meagre data.

Conclusion

It will be apparent from what has been said above that the sporadic cases of frizzly hair may not be Negritoid at all. They may be independent mutations. Whether they are genetically related to the Negro frizzly hair group or the Melanesian frizzly hair group, only further genetic researches can disclose. Both Guha and Eickstedt appear to favour the Melanesian origin, but when we are reminded of Eugen Fischer's hypothesis of the origin of the spirally curved hair from the smooth, wavy spirally curved hair from the smooth, wavy hair of the Veddas, the possibility is extended in other directions. In this connection, Sir Arthur Keith's observation in the review of Guha's 1935 report is most significant : 'The bridge which links the Pathans of N. W. to the hill-tribes of Travancore is still in existence. If evolution be true, and if the 352 millions of people now in India are members of the same great branch of humanity, this ought to be the case. Yet, strange to say, all or nearly all who have sought to explain the differentiation of the population into racial types have sought the solution of this problem outside the peninsula. They have never attempted to ascertain how far India has bred her own races. They have proceeded on the assumption that evolution has taken place long ago and far away but not in the great anthropological paradise of India'.

Further researches should therefore be undertaken with these possibilities in view. Guha (1937) has mentioned De Terra's researches in the Soan Valley which has yielded artefacts similar to the Upper Palaeolithic culture of Europe, and there should be every reason to expect skeletal remains of early man in our own country. De Terra (1949) is equally emphatic and optimistic about such a possibility.

BIBLIOGRAPHY

1, Cipriani, L. 1938. On the Anthropology of the Todas, *Proc. 25th Ind. Sci. Cong.* (Abstracts), Calcutta.

2. De Terra, H. 1949. Geology and Climate as Factors of Human Evolution in Asia, *Viking Fund Symp.* on Early Man in the Far East. *Stud. in Phys. Anth.* No. 1.

8. Dorsey, G. A. 1913. Observations on a collection of Papuan crania, *Pub. Field Columbian Mus. Anth. Ser. Vol. II*, Chicago.

4, Ehrenfels, U. R. 1952. *Kadar of Cochin*, Madras Univ.

5. Eickstedt, V. E. F. 1939. Introduction, Vol. II, *The Travancore Tribes and Castes.* Trivandrum.

6. Fischer, Eugen. 1932. Die gegenseitige Stellung der Menschenrassen auf Grund der Mendelnden Merkmal *Com. Ital. Stud. Prob. d. Poplaz*, Rome.

7. Guha, B. S. 1928. Negrito Racial Strain in India, *Nature*, 121, 793.

8. ,, 1929. Negrito Racial Strain in India, *Nature*, 122, 942.

9. ,, 1935. Racial Affinities of the Peoples of India, *Census of* India 1931.

10. ,, 1937. An Outline of the Racial Ethnology of India, in *An Outline of the Field Sciencs in India*, *Ind. Sc. Cong. Asscn.*, 1938.

11. ,, & P. C. Basu, 1931. A Report on the Human Relics recovered by the Naga Hills (Burma) Expedition for the Abolition of Human Sacrifice during 1926-27. *Anth. Bull. No. 1, Zool. Surv. Ind.* Calcutta.

12. Haddon, A. C. 1924. *The Races of Man.* Cambridge.

18. Hauschild. Rita. 1939, Rassenkreuzungen zwischen Negern und Chinesen auf Trinidad, W. I., *Zts. Morph. Anth.* 38, 67.

14, Howells, W. W. 1937. Anthropometry of the Natives of Arnhem Land and the Australian Race Problem. *Pap. Peabody Mus. Am. Arch. Ethn Harvard Univ.* XVI, 1.

15. Hutton, J. H. 1927. A Negrito Substratum in the population of Assam, *Man in India*, VII, 257.

16 ,, 1946. *Caste in India*, Cambridge.

17. Keane. A. H. 1896. *Ethnology*, Cambridge.

18. ,, 1909. Introduction, Vol. I, *The Cochin Castes and Tribes.*

19. Keith. Arthur. 1936. Review of B. S. Guha's *The Racial Affinities of the Peoples of India*, *Man*, 29.

20. Lapicque, Louis, 1905. Note Sommaire sur une mission ethnologique dans le Sud de l' Inde. *Bull. Mus. Hist. Nat.* II.

21. ,, 1906. Les Negres d' Asie, et la race Negre en general, *Rev. Scient.*, VI.

22. Martin. Rudolf. 1928. *Lehrbuch der Anthropologie*, Vol. I. Jena.

23. Mohr, Otto 1932. Woolly hair a dominant mutant character in Man, *Jr. Heredity.* 23.

24. Risley, H. H. 1915. *Tho Peoples of India*, Calcutta.

25. Sarasin, P. & F. 1893. *Ergebnisse naturwisenschaftlichen Forschung auf Ceylon*, Vol. 3.

26. Sarasin Fritz. 1922. *Anthropologie der Neu Caledonier und Loyalty Insulaner*, Berlin.

27. Sarkar, S. S. 1936. Negrito Racial Strain in India, *Nature*, 129.

28. Taylor, Meadows, 1875. Description of cairns, cromlechs, kistavaen, and other Celtic, Druidical or Scythian Monuments in the Dekhan, *Trans. Roy. Irish Acad.* XXIV.

29. Turner, W. 1905, Contributions to the Craniology of the People of the Empire of India, *Trans. Royal Soc. Edin.*, 40, 114.

30. Thurston, E. 1909. *Tribes and Castes of Southern India*, Vol. I, Introduction, Madras.

ERRATA

	For	Read
P. 25, line 22	warrant	warrants
P. 25, line 25	study be	study by
P. 28, line 17	delete	'spirally curved hair from the smooth, wavy'.

[...]ARA PUBLIC LIBRARY
14 APR 1958
MADRAS

REPRODUCTIVE LIFE OF SOME INDIAN WOMEN

By TULIKA SEN
Calcutta

Introduction

IN the present paper an attempt has been made to study in detail the reproductive lives of several groups of Indian women from different parts of the country.

With this end in view, data were collected from :

(a) A group of girls and mothers belonging to the three high castes, Brahmin, Vaidya and Kayastha from the city of Calcutta. They all belong to middle class families. These data comprise the representative urban sample.

(b) A group of girls and mothers belonging to the Bagdi caste from the village of Moydah, 24 Perganas, West Bengal, about thirty miles south of the city of Calcutta. The Bagdis are an agricultural community. Some of them are day labourers and also earn their livelihood by fishing, etc. These data comprise the rural sample.

(c) A group of girls and mothers from Travancore. These data were collected by Mrs. Parukutty Barua during August 1942.

Scope of the present Survey

A survey of this kind is necessary in order to understand the present trend of menarche of Indian girls which is so to say the beginning of fertility. The other factors closely related to this are adolescent sterility interval and the pre-menarcheal acceleration of growth. A correct appraisal of these phenomena is urgently necessary, without which no social laws, specially those related to marriage, can or should be formed. We do not know accurately the menarcheal age of Indian girls although the Age of Consent Enquiry Committee have already published a voluminous report.

It has been found in Western countries that the average menarcheal age has been going down. It is also variable in rural and urban girls ; urban girls menstruating earlier, thereby attaining an earlier maturity than rural girls. Menarche has also been found to be variable in different social statuses ; girls of higher social status attaining menarche earlier than their poorer sisters. In U. S. A., White girls attain earlier menarche than Negro girls. In Sweden during the last fifty years the average menarcheal age has been going down at the rate of 10 days per year. In U. S. A. the menarcheal age of the White has undergone an acceleration of four months between the year 1930-38, while the Negroes have undergone an acceleration in maturity during the 25 years (ranging from 1910-14 to 1935 40) by 1 year and 2⅓ months. Nothing is known of these phenomena in our country. A progressive or retrogressive change can only be judged after long periods of observation.

Crew's (1939) experiments on mice have shown that maturity is a genetic character. According to him, earliness is dominant over lateness. Under the circumstances it is worthwhile finding out by actual enquiry the condition of our girls.

All girls pass through an acceleration of growth before menarche, which has been termed pre-menarcheal acceleration. Nothing is known of this phenomenon in our country. An enquiry of this nature is however essential in view of the declining condition in the health of our school and college girls of today. A thorough enquiry between the ages of ten and twelve of school girls will be a standard for distinguishing the normal from the abnormal.

There is a period of sterile interval soon after menarche, known as adolescent sterility interval. We need know accurately this period of sterility interval, although it is closely associated with contraceptive practices. Usually two years are taken as normal birth interval. The present enquiry reveals that the rural sample from Bengal shows a higher birth interval than the urban sample.

All these biological factors of human reproduction, namely the age of the mother at the birth of the first child, the net

reproductive index, last birth-menopause interval, age at the menopause, are of vital importance for the well-being of the nation.

Collection of Data

The data on high caste Bengali women were collected from relatives and friends. There were always some common friends and relatives who were helpful in checking the data of one another. Each was interviewed personally and necessary information was gathered according to an already prepared form. For unmarried girls, the only information to be obtained was the menarcheal age. For this purpose each was provided with a form printed in Bengali asking for the following details : name, caste, exact date of birth and exact date of menarche. In this respect everybody was correct to the month, only 44 girls were able to state both the dates of birth and of menarche correct up to the day.

The data from among the Bagdis was collected for comparative purposes. It was collected from the village of Moydah, and though situated near Calcutta, it is not culturally affected by the city's civilization. The Bagdis are mostly confined to southern and western Bengal. Their total population according to the Census of 1931 is 987,570, of whom 496,792 are males and 490,778 females. The district of 24 Parganas has 99,779 Bagdis of whom 51,621 are males and 48,158 females.

The Nayar data of Travancore has served as a sample of population outside the state of West Bengal. They form one of the major castes of Malabar and Travancore in South India. The Census of 1931 gives the total population of Nayars as 868,411 of whom 431,154 are females. The proportion of literate men and women among the Nayars is high. The Nayar data were collected by Sm. Parukutty Barua, a Nayar herself. The data were collected by her under the guidance of Dr. S. S. Sarkar, who dealt with this matter in his Presidential Address.

The old Bengali ladies from whom the data were collected are almost all literate. They remembered their children's birthdays accurately to the day. A few were correct upto the month. Regarding their age at marriage, they were always correct.

Almost all of them had passed through the ceremony of *Punarbibaha* on their first menstruation ; as such, they had a clear memory of its month and year. As a matter of fact it was found that these old ladies are more particular in remembering the dates than the younger generation. The Bengali young women, by virtue of their literacy and young age, could almost all tell the ages correct upto the day.

Each of the Bagdi women was interviewed personally. The rural people hardly care to remember the exact dates of any event, but they remember many facts associated with the birth, puberty, marriage, death, etc. of their children or relatives. The Bengal Famine of 1943 was a notable year, and this was very helpful in ascertaining the age of their children. Two intelligent, aged Bagdi women helped the authoress as field guides. They were helpful to the mothers in recalling the birth dates of their children. There is a rigid custom among these people that no girl or boy is given in marriage in her or his month of birth. The mothers do not pare their nails on the day of their birth. Moreover, they offer special dishes to their children on the day of the particular fortnight of the month in which they were born. So they clearly remember the months and days of birth of their children. The Bagdi data are all from young girls whose husbands are still living and almost all the children subjects were individually seen. The mothers of the same neighbourhood could give a comparative idea of each other's children's age. The girls are married before menarche ; the old people who witnessed the marriages gave a rough idea of the ages of the girls when they were married. They have the custom of second marriage when the married girls first menstruate. They remember the month of marriage and the month of the second marriage quite well. These facts helped the authoress in collecting the data among the Bagdis as accurately as possible.

The Nayar women from whom the data were collected were all literate. They were able to give information about the various dates, correct upto the month.

Age at Menarche

The majority of data on menarcheal age was collected from

two Calcutta girls' schools. Accuracy of age at least upto the month was strictly followed. Only 44 out of 647 high caste Bengali girls could tell their dates of birth and menarche correct upto the day. All abnormal cases were rejected. The Bagdi and the Nayar samples comprise 60 and 74 women respectively.

The following table shows their respective frequencies :

TABLE 1 (A)

MENARCHEAL AGE

Age at menarche in yrs.	Freq. Brahman	Freq. Vaidya	Freq. Kayastha	Freq. All castes combined	Freq. Bagdi	Freq. Nayar
9	2	4	0	6	0	0
10	4	8	3	15	0	1
11	13	34	18	65	4	0
12	43	76	6	185	8	1
13	45	76	70	191	28	3
14	36	59	45	140	13	46
15	7	13	13	33	4	9
16	3	3	4	10	2	3
Above 16	0	2	0	2	1	11
Total	153	275	219	647	60	74

The class intervals in Table 1 (A) have been considered for twelve months, e. g , 10 represents the occurrence of menarche from 9 yrs. to 9 yrs. 11 months.

TABLE 1(B)

Caste	Mean ± S. E.	S. D.	Variance
Brahman (153)	12.80 ± 0 10 yrs.	1.28	1.63
Vaidya (275)	12.70 ± 0.08 ,,	1.33	1.80
Kayastha (219)	12.87 ± 0.08 ,,	1.16	1.35
All castes (647)	12.73 ± 0.05 ,,	1.27	1.61
Bagdi (60)	13.25 ± 0,15 ,,	1.19	1.41
Nayar (74)	14.29 ± 0.19 ,,	1.67	2.78

It will be obvious from the above table that the three Bengali upper castes vary very little from one another in their menarcheal ages. The mean age for the Brahmans is 12.80±0.10 yrs., that for the Vaidyas 12.70±0.08 yrs. and for the Kayasthas 12.87± yrs. ; while the three castes combined yield an average of 12.78±0.05 yrs., which is very much similar to the individual means given above. Compared with this, the average menarcheal age of the Nayars is 14.29±0.19 yrs. while that of the Bagdis is 13.25±0.15 yrs.

The details of the 44 girls who were able to tell their dates of birth and menarche correct upto the day, are given below :

TABLE 2

MENARCHEAL AGE OF 44 UPPER CLASS BENGALI GIRLS

Caste	Years	Months	Days
Brahman (11)	12	5	19
Vaidya (17)	13	0	26
Kayastha (16)	12	6	26
Total (44)	Mean=12	8	26

This mean of 12 yrs. 8 mths. 26 days agrees very well with the mean of all castes combined, i.e., 12.78 yrs.

Ashley Montagu is of opinion that the menarche before 12 yrs. of age is abnormal and as such the frequency of abnormality among the various Bengali castes is as follows :

TABLE 3

PERCENTAGE OF ABNORMALITY IN MENARCHEAL AGE

Castes	Menarche upto 11 years of age	Percentage
Brahman	19	12.42
Vaidya	34	12.36
Kayastha	29	9.58
All castes	86	13.28

The percentages of abnormality among Brahmans and Vaidyas do not differ from each other though slight difference is noticed in the case of Kayasthas and the other two castes.

Applying "t" test of significance to the different groups mentioned above, the following values are obtained :

TABLE 4

Groups concerned	Values of "t"	Significant or not
Vaidya and Brahman	0.77	No
Vaidya and Kayastha	1.56	"
Brahman and Kayastha	0.54	"
Upper castes & Bagdi	2.94	Highly significant
Upper castes & Nayar	7 55	Highly significant

Menarche—Conception Interval

A sterile interval has been found to be present between menarche and the first conception not only in the case of human beings but also of animals. Crew and Mirskaia (1926) have shown its presence in mice, Hartman (1931) in monkeys, Tinklepaugh (1933) in chimpanzees and Winters, Green, and Comstock in cows. All these facts have been discussed in detail by Ashley Montagu in his book *Adolescent Sterility.*

An attempt was made to find out a sterile interval in the present data. There is no previous data on this fact in our country. Socio-economic factors have raised the marriage age of girls, and they are nowadays given in marriage long after puberty. As such, there is little chance of having any data on menarche-conception interval at present. The older women were mostly married before their menarche and as such they form the basic material for this data.

As there is no significant difference between the average menarcheal ages of the three high castes the data of the three high castes have been grouped together. The following table shows the distribution in each class interval :

TABLE 5

MENARCHE—CONCEPTION INTERVAL (UPPER CASTES (GROUP A)

Interval in Months	Frequency
Below 10	16
11- 20	41
21- 20	25
31- 40	8
41- 50	8
51- 60	6
61- 70	8
71- 80	4
81- 90	3
90-100	1
	120

Mean : 29.30 ± 1.96 months ; Variance : 476.00 ; S.D. : 21.40.

Ashley Montagu has regarded ten months as the period of pregnancy and as such this period has been deducted from the age of the mother at the birth of her first child to arrive at the age at conception. The age at menarche deducted from the age at conception yields the menarche—conception interval. This is shown from an example of a subject of this study.

16 years	...	...	age at birth of 1st child
Less 10 months	...	...	period of pregnancy
15 yrs 2 mths.		...	age at conception
Less 13 yrs. 2 mths.	...	...	age at menarche
2 yrs.	...	...	sterile interval

Another set of data was collected for comparison with the above. They were from high caste women, married after menarche (Group B). This will be evident from Table 6 :

TABLE 6

MENARCHE—CONCEPTION INTERVAL, UPPER CASTES (GROUP B)

Interval in months	Frequency
Below - 20	9
21- 40	18
41- 60	18
61- 80	25
81-100	10
101-120	6
121-140	2
141-160	4
161-180	2
181-200	1
201-220	1
	Total 96

Mean 67.50 ± 4.29 mths. ; Variance : 1768.00 ; S.D. 42.05.

It will be seen from the above tables that the two groups show widely varying means. Group A yields a mean of 29.30 mths., while Group B shows 67.50 mths. The latter is obviously due to late marriage and shows a loss of fertile period of 38.20 mths.

The Bagdis, as mentioned above, still marry before menarche and as such they fall in Group A. They yield a mean of 31.21 ± 2.07 mths.

TABLE 7

MENARCHE—CONCEPTION INTERVAL* (BAGDI)

Interval in months	Frequency
2	4
14	8
26	16
38	12
50	12
62	1
	Total 53

Mean : 31.21 ± 2.07 mths. ; Variance : 225.56 ; S.D. : 15.02.

*One observation has been excluded from calculation as the interval fell in class 86.

A comparison between the two means of the menarche-conception interval of the two Groups A of Bengal, i.e., the urban upper castes and the rural Bagdis shows that the means agree with one another closely ; the urban mean is 29.30 mths. The value of "t" has been found to be 0.670 which indicates that the difference of the above two means is not significant.

In the urban Group A only two women were found who had no interval between the menarche and the first conception. A group of 12 women has been treated separately because they neither fall in Group A nor in Group B. They were married within 6 months of their menarche. The individual data are as follows :

TABLES 8

MENARCHE—CONCEPTION INTERVAL (UPPER URBAN CASTES)

Interval in months	Frequency
9	1
18	1
15	2
17	1
19	1
29	1
89	1
56	2
58	1
68	1
	Total 12

Mean : 37.83±5.92 mths ; Variance : 421.52 ; S.D. : 20.50

The Nayars show the menarche-conception interval in the following manner :

TABLE 9

MENARCHE—CONCEPTION INTERVAL (NAYARS)*

Interval in months	Frequency
Below 20	8
21- 40	6
41- 60	9
61- 80	8
81-100	8
101-120	1
121-140	3
141-above	4
	87

Mean : 73.20 ± 6.91 mths. ; Variance : 57.38 ; S.D. : 42 00

The 't' of the Nayar mean with that of upper caste Bengali women of Group B shows a value of 0.701, which means the difference is not significant.

Birth Intervals and Births

Data were also collected from the Bengali upper castes, the Bagdis and the Nayars, regarding the fertility of girls, sex-ratio of children, maternal ages at the different births and birth intervals.

Mother's age at the birth of first child : In respect of this character the upper caste data were also classed into two groups, A and B. A comprised mothers married before menarche while B those married after menarche.

*Two observations 324 and 384 have been left out of consideration.

TABLE 10

UPPER CASTES

Age of mothers at the birth of the first child, in yrs.	Frequency	
	Group A*	Group B
12-13	6	2
14-15	34	8
16-17	48	39
18-19	16	23
20-21	10	19
22-23	2	10
24-25	-	3
26-27	-	2
28-29	-	2
30-31	-	2
32-33	-	1
34-35	-	-
36-37	-	1
	116	112

Group	Mean $\pm$ S. E.	S. D.	Variance
A	16.25 $\pm$ 0.19 yrs.	2.04	4.15
B	19.08 $\pm$ 0.38 yrs.	4.02	16.20

There is a difference of 2·83 years between the means of the two groups. This increase in age of mothers of the younger generation is obviously due to late marriage. Among the mothers of Group A the maximum age at the birth of the first child was found to be 23, while among the mothers of Group B, 4 had their first child after their 30th year.

*In the above table one observation has been left out in the age-group 26 years (25 yrs, 7 mths, to be exact) of Group A as it would have vitiated the estimates.

TABLE 11

MOTHER'S AGE AT THE BIRTH OF FIRST CHILD

Age in years	Frequency	
	Bagdi	Nayar
14	6	-
15	8	3
16	17	4
17	5	5
18	9	2
19	1	1
20	5	5
21	1	6
22	1	1
23	-	3
24	-	-
25	-	1
26	-	3
27	-	4
28	-	2
29	:	2
	53	42

Group	Mean ± S .E.	S. D.	Variance
Bagdi	16.70 ± 0.27 yrs.	1.95	3.79
Nayar	20.74 ± 0.68 yrs.	4.39	19.23

It will be seen from Tables 10 and 11 that the mean age at birth of the first child of upper castes of Group A is 16.25 ± 0.19 years while that of Group B is 19.08 ± 0.38 years. The value of 't' between the two means of the upper caste (Group A) and the Bagdis is 1.36 which means that the difference is not significant. The mean ages of the Bagdi and Nayar mothers at the birth of the first child are 16.70 ± 0.27 years and 20.74 ± 0.68 respectively.

The value of 't' between the Nayar and Bagdi means is 3.45 which indicates a significant difference.

Sex-ratio : In determining the sex-ratio, the sexes of the miscarried foetus and still-born babies, where available, have

been taken into account. The total number of miscarried and still-born babies found respectively among the Brahmans are 13 and 5, among the Vaidyas 54 and 7, and among the Kayasthas 13 and 5. In considering the sex-ratio, the two groups A and B have been combined together. The table below gives the ratio.

TABLE 12

SEX-RATIO

Group	Total no. of children	Male	Female	Male : Female
Brahman (urban)	250	145	105	138·09 : 100
Vaidya „	760	412	349	118·09 : 100
Kayastha „	406	166	146	115·71 : 100
Total (urban)	1416	723	600	120· 5 : 100
Bagdi (rural)	209	126	83	151·80 : 100
Nayar (Travancore)	188	83	105	77·18 : 100

It will be seen from the above table that all the groups show a preponderance of males except the Nayars. The Bagdis have the lowest number of females, a feature characteristic of many of the lower castes of Bengal.

Sex-ratios of the first-born children are given in the table below :

TABLE 13

SEX-RATIOS OF THE FIRST-BORN

Group	Total No. of children	Male	Female	Male : Female
Brahman	41	23	18	127·33 : 100
Vaidya	131	66	65	101·53 : 100
Kayastha	50	31	19	163·15 : 100
Bagdi	54	26	28	85·11 : 100
Nayar	44	15	29	51·72 : 100

Here again the first three groups show a preponderance of male children, only the Bagdi shows 2 more females than males, which however does not correspond with their general sex-ratio. The Nayars show about double the number of females than that of males.

Mortality of the first-born**:** All authorities like Karl

Pearson, Crew, Penrose, are agreed that the first-born child is exposed to grave risks and a higher mortality is evident in this birth rank. The present data show the death rate of the first born in the following manner :

TABLE 14

MORTALITY OF THE FIRST-BORN

Group	Total no. of 1st born	Abortion & Still-born	No. died within 2yrs. of age	Percentage
Brahman	41	2	8	12 18
Vaidya	131	9	18	16.03
Kayastha	50	3	15	35.00
Bagdi	54	4	14	33.33
Nayar	44	—	—	—

It will be noticed from the above table that the Kayasthas show the highest percentage (35·00) of mortality, that being higher than in the case of the Bagdis (33·33%). This is surprising in view of the fact that the Kayasthas are literate and being in the city enjoy more medical facilities than the Bagdis. The Nayars, on the other hand, offer an example. Of the 44 first-borns, not a single faced death at infancy. The Brahmans show the lowest infant mortality of all, while the Vaidyas stand second in order.

Number of children per mother : Under this head the mothers belonging to Group A only have been considered as they have already attained their menopause. Widows below the age of 45 have been excluded. There was not a single case of conception above this age in the present data. Similarly, those losing their husbands when they were above 45 years of age and are now above 50 years have been taken into account. Sterile women have not been taken into account at all, as a result of which the figures obtained for the number of children per mother may not be a true one for the whole population. They only give an idea of a sample of fertile mothers. The mothers who suffered from any notable uterine troubles or whose uterii have been removed due to diseases before they reached the end of their reproductive life, have been excluded here. All such uterine disorders occurred towards the higher ages of the mothers.

TABLE 15
NET REPRODUCTIVE INDEX

Caste	Total no. of children	Total no. of daughters	Average no. of children per mother	Net reproductive index
Brahman (21)	141	61	6.71	2.90
Vaidya (53)	423	183	7.98	3.43
Kayastha (20)	174	69	8.7	3.45
All castes (94)	738	313	7.85	3.32

The above table gives an average of 7·85 children per mother for all castes combined. This is the case in the families of old parents of today.

In the net reproductive index all the three castes show a very high value. In fact the indices are the highest so far recorded, and this may be due to the small size of the sample.

Birth intervals : The data for this purpose have been separately treated for each caste and for each group. Each class interval, given in the following tables, is of one year ; the first year represents the interval ranging from 1 month to 12 months, the second year from 13 months to 24 months and so on. Miscarriages have been excluded, but still-births are included. Twins have been considered as one birth.

TABLE 16 (A)
BIRTH INTERVALS *

Interval in yrs.	Brahman		Vaidya		Kayastha		Bagdi	Nayar
	Gr.A	Gr.B	Gr.A	Gr.B	Gr.A	Gr. B		
1	12	16	28	55	32	13	44	-
2	61	25	108	138	80	23	60	1
3	29	6	36	108	46	17	23	7
4	13	4	23	35	11	9	14	12
5	11	3	8	18	7	1	10	4
6	2	-	4	3	1	2	5	8
7	1	1	1	1	1	1	1	8
8	1	-	2	1	-	-	1	-
9	-	-	-	-	-	-	1	-
10	-	-	1	1	-	-	-	-
11	-	-	2	-	-	-	-	-
12	-	-	1	1	-	-	-	-
Total	130	55	214	415	180	66	169	35

* One observation in the frequency group 12 yrs. of Brahman A, one in 10 yrs. of Brahman B, one of 19 yrs. 11 mths. of Vaidya A, one of 12 yrs. of Kayastha B and one of 12 yrs. of Bagdi have been excluded from the calculation.

TABLE 16(B)

Groups	Mean ± S. E.	Variance	S. D.
Brahman			
A	2.78 ± 0.11 yrs.	1.67	1.29
B	2.22 ± 0.17 yrs.	1.62	1 27
Vaidya			
A	2.55 ± 0.07 yrs.	2.02	1.42
B	2.69 ± 0.12 yrs,	2.88	1.70
Kayastha			
A	2.46 ± 0.10 yrs.	1.78	1.33
B	2.58 ± 0,13 yrs.	1.54	1.24
Upper castes combined (Group A)	2.26 ± 0.09 yrs.	1.40	1.18
Upper castes combined (Group B)	2.60 ± 0.09 yrs.	2.64	1.59
Bagdi	2.41 ± 0.12 yrs.	2 38	1.54
Nayar	2.73 ± 0.02 yrs.	1.84	1.36

Older women of Brahman Group A and the younger women of Brahman Group B show very little difference in their mean birth intervals. The test of significance between these two Groups (t = 1·48) shows that this difference in birth intervals is not at all significant.

The 't' of the two means of Vaidya A and B gives a value of 4·79 which indicates its significance at 1% level of probability.

The value of 't' of the above two means of Kayasthas is 0·76 which is not significant.

The Bagdis show a mean similar to the upper caste Bengali women.

As a matter of fact, the means of all the groups show a similarity between themselves. Though the Nayars belong to a country widely separated from Bengal and belong to another socio-ethnic group, still they show a mean which is closely allied to the Bengali values both rural and urban.

TABLE 17

VALUES OF 't' FOR BIRTH INTERVALS

Groups concerned	't'	Remarks
1. Brahman A & B	1.48	Not significant
2. Vaidya A & B	4.79	Significant
3. Kayastha A & B	0.75	Not significant
4. Upper castes A & B	3.40	Significant
5. Bagdi A & Nayar B	0 78	Not significant
6. Nayar B & Upper castes B	0 52	,,
7. Nayar B & Upper castes A	2.01	Significant
8. Bagdi A & Upper castes A	4.53	,,
9. Bagdi A & Upper castes B	2.00	,,

Last Birth and Menopause

Data for this character were collected from the old women (Group A) who have completed their reproductive life. Women widowed before 45 years of age and those suffering from prolonged uterine troubles have been excluded.

It has been already mentioned that the three high caste Bengali women vary slightly from one another as regards their reproductive physiology. As such, in order to enlarge the data for this character, the different castes have been grouped together. Table 18 shows the age of the mothers at the birth of the last child.

TABLE 18

AGE OF MOTHERS AT THE BIRTH OF LAST CHILD

(UPPER CASTES)

Age in years		Frequency
15—18	...	1
19—22	...	5
23—26	...	5
27—30	...	7
31—34	...	20
35—38	...	23
39—42	...	23
43—46	...	9
		93

Mean : 95.10 ± 0.68 yrs. ; Variance 42.72 : S. D. : 6.52.

It will be seen from the above table that the largest number of mothers have given birth to their last child between the ages of 35 and 42. 18 out of 93 mothers, i.e., 19·33% ceased to procreate within 30 years of age.

Last Birth—Menopause Interval

It was also seen in the above data that almost all the upper caste women passed through a sterile (?) phase before menopause. It is almost similar to that found in the beginning of their reproductive lives, i.e., the interval between menarche and first conception, already discussed. The cases considered here relate to women having their menopause while their husbands were living.

TABLE 19

LAST BIRTH—MENOPAUSE INTERVAL

Interval in years		Frequency
Below 3	...	7
4—6	...	16
7—9	...	22
10—12	..	8
13—15	...	9
16—18	...	10
19—21	...	8
22—24	...	4
25—27	...	3
28—30	...	5
31—33	...	1
		93

Mean : 12.41 ± 0.81 yrs. ; Variance : 69.21 ; S. D. : 7.77

The above table will show that there is an average interval of 12·41±0·81 years between last birth and menopause. The maximum frequency lies between 7 and 9 years.

Age at Menopause

Menopause, unlike menarche, is a slow process. It takes probably a long time for the complete withdrawal of the flow. It is always preceded by irregular flows, either too much or too little flow, which eventually terminates in the menopause. For this reason, very few women were able to tell exactly when menopause occurred. Table 20 gives the age at menopause in Bengali high caste women. The Bagdi and Nayar data are too few in number to be taken into consideration.

TABLE 20*

AGE AT MENOPAUSE (ALL CASTES COMBINED)

Age in years		Frequency
37—38	...	4
39—40	...	7
41—42	...	5
43—44	...	12
45—46	...	18
47—48	...	20
49—50	...	32
51—52	...	27
53—54	...	5
55—56	...	1
		131

Mean : 47.50±0.35 yrs. ; Variance : 16.12 ; S. D. : 4.02

It will be seen from the above table that the average age at menopause for the 131 high caste women comes up to 47·50 ± 0·35 years.

* One observation at the age of 60 has been left out.

Conclusion

Age at menarche :

The menarcheal age has been found to vary from 9 to 16 years in the case of Brahmans, 9 to above 16 years in the case of Vaidyas and 10 to 16 years in the case of Kayasthas, 11 to above 16 years in the case of Bagdis and 10 to above 16 years in the case of Nayars. It has been found that there is no significant statistical difference between the three high castes of Brahman, Vaidya and Kayastha and as such the city samples have been grouped together. The mean of this pooled sample is, however, statistically significant with the two averages of the Bagdis and the Nayars. The Report of the Age of Consent Enquiry Committee mentioned that there is no difference in different communities, a fact which appears to be untenable in view of the results obtained from this study. Chandrasekhar (1949) is of opinion, 'Indian girls attain puberty between the ages 12 and 15, and though often physically immature they are physiologically ready to bear children. And cases are not wanting where reproduction has begun at the age of 14 or 15'. The range of years for menarche stated by Chandrasekhar can be greatly modified, as will be seen from the Table 1(A), although the size of the data here is very small as compared to the population of India. The range of years does not give a true picture of the phenomenon as it is seen that the girls of other countries also fall in this range. It is fair to state the mean age in such cases. As regards the latter part of the statement it can be said that as a general rule girls do not conceive before they are both physically and physiologicaly mature. The mean age of mothers at the birth of the first child (Table 10) also proves this. A few exceptional cases cannot be included along with the normals, and they are present in other countries as well.

It has been found in Western countries that girls in higher social scales attain puberty earlier than their sisters under poorer circumstances ; and the average menarcheal age is gradually going down. None of the earlier data of this country is comparable with that of the present study. The present city

sample is however, to some extent, comparable with the Hindu sample of Curjel (1920). Curjel's mean for 268 Hindus is 13.62 ± 0.11 years, whereas the same obtained by the present study of Calcutta girls is 12.73 ± 0.05 years. The difference between the above two means is statistically significant and it remains to be seen from later observation whether our girls too are attaining an earlier maturity than before. Curjel's data were published in 1920 and further researches alone can prove whether within the present quarter of a century our girls are attaining an earlier maturity by 0.84 years. It is difficult to explain at this stage the difference between the menarcheal ages of the Bengali urban and rural girls of the present survey.

The Menarche—Conception Interval :

The menarche-conception interval has been found to vary between below 10 months to 100 months among the upper caste Group A, below 20 to 220 among the upper caste Group B, 2 to 62 months among the Bagdis and below 20 to above 140 months among the Nayars.

There is no significant difference between the menarche-conception interval of the urban and rural samples of Bengal. Since so many genetic and environmental factors are at work behind this phenomenon, an explanation offered at this stage will be nothing short of mere guesswork. It is, however, worth while pointing out that the Bagdis have a higher average age at menarche than the city girls, which means an earlier attainment of puberty among the latter. It may be mentioned here that the Sarda Act was enforced as a result of the investigations of the Age of Consent Enquiry Committee to save the health of the women of our country by banning the marriage of girls below 14 years. The idea about the fecundity of women, they had at that time, was that if the girls are married at an early age they would conceive early and thus would risk the lives of both the mother and the child. The present study shows that the high caste urban women who were married before their menarche, yields the average age at the birth of the first child as 16.25 ± 0.19 years.

The average age of these women at the time of this enquiry

(1950) was 58.95 years which means that during the years 1928 to 1929 when the Age of Consent Enquiry Committee was holding its enquiries, these women were between 36.96 and 37.96 years in age. Had the Age of Consent Enquiry Committee taken up the genealogical method of enquiry, they would have arrived at different results. That there was a sterile phase following menarche in these women amounting to 29.30±1.96 months will be evident from Table 5. All these necessitate a re-orientation of our old ideas regarding maturity.

Sex ratio

In the Census Report of 1931 it is found that there are more males than females among the Brahmans, the Vaidyas, the Kayasthas and the Bagdis of Bengal. Similar sex-ratios have also been found in the present study as well. Nayar preponderance of females over males as found in the present study also agrees with the census figures of 1931.

Birth Intervals :

The averages of birth intervals of the groups studied here are 2.73±0.11 years (Gr. A) and 2.36±0.22 years (Gr. B) among the Brahmans, 2.02±0.07 years (Gr. A) and 2.69±0.12 years (Gr. B) among the Vaidays, 2.45±0.10 years (Gr. A) and 2 58±0.13 years (Gr. B) among the Kayasthas, 2.94±0.14 years among the Bagdis, and 2.73±0.02 years among the Nayars.

It is seen that though in the younger generation (Group B) of the upper castes the births were said to have been to some extent regulated by contraceptives they had no effect in the birth intervals. The Bagdi women, who are still far from literacy and do not practise any form of contraception whatsoever, have the highest average birth interval (2·94±0·14 yrs.) of all.

Menopause :

Curjel in her paper on 'The reproductive life of Indian Women' says that the average duration of menstrual life among the Indian women (74 cases studied) does not differ from that of European women. She writes, 'The average climacteric occurs between the 40th and the 45th year, but normal limits

are much wider ranging between the 40th and 55th years'. She further states, 'Climate and other accidental factors are not considered to exert the same influence on the cessation of the reproductive function as on its commencement'.

Every woman passes through a sterile phase soon after her menstrual life. This phase has been discussed under the heading Menarche-Conception Interval. It appears to the present writer, that there is also another phase of sterile period between the last birth and menopause. This interval has been found to be as high as 12.41±0.18 years in the case of high caste Bengali women. This period is also similar to the menarche-conception interval in having a few chance conceptions.

BIBLIOGRAPHY

1. Ashley-Montagu, M. F. 1948. *Adolescent Sterility*, Philadelphia.
2. Chandrasekhar, S. 1949. The population problems of India aud Pakistan, *Eugenics Rev.*, July.
3. Crew, F. A. E. 1930. Puberty and Maturity. *Proc. 2nd Int. Cong. Sex Res.* London.
4. ——— & Mirskia, L. L. 1930. Maturity in the Female Mouse, *Proc. Royal Soc. Edinburgh*, 50. (quoted in Bibl. 1.)
5. Curjel, D. F. 1920. The Reproductive Life of Indian Women, *Ind. Jr. Med. Res. 8*,
6. Gupta, M. On Menstruation among Hindu Females, in Allan Webb's *Pathologica Indica*, (quoted in Bibl. 1)
7. Hartman, C. G. 1931. On the relative sterility of the Adolescent Organism, *Science*, 74.
8. Lenner, A. 1944. Das Menarchealter : Eine Unterschung uber den Einfluss verschiedener Faktoren an das Menarchealter, II, *Acta Obst. et Gynaec.* Scandinavia.
9. Michelson, N. 1944. Studies in the Physical Development of Negroes IV, Onset of Puberty, *Am. Jr. Phy. Anth.*
10. *Report of the Age of Consent Enquiry Committee, 1928-29.*
11. Tinklepaugh, O. L. 1933. Sex Cycles and other Cyclic Phenomena in a Chimpanzee during Adolescence, Maturity and Pregnancy, *Jr. Morph.*, 54.
12. Winters, L. M., Green, W. W., Comstock, R. E., 1942. Prenatal Development of Bovine, (quoted in Bibl. 1).

SEX LIFE OF REFUGEES IN A TRANSIT CAMP: SOME CASE STUDIES*

By KHAGENDRA NATH SEN
Lecturer in Sociology
&
LALIT SEN
Research Student
Department of Political Science and Sociology
Calcutta University

Regulation of relationship between opposite sexes is the foundation of a stable and normal society. Society always attempts to control the sex relations of its members through the institution of marriage, incest prohibitions and sex taboos. This control has been the result of a very long process during which these institutions and controls have slowly and gradually come into being. Different objective conditions have given different shapes to them in different countries. Sex customs differ even among different social orders in the same society. Whatever may be the differences, in a stable society, sex relations always follow a set pattern. When any disturbance occurs and there is a change in the social structure, one of the inevitable effects is a change in the traditional pattern of sex relationship. Sex life among workers in an industrial centre bears testimony to this proposition.

Refugee movements almost always give a fatal blow to the traditional pattern and help in bringing about far reaching changes even among the receiving population. Until the refugees rehabilitate themselves and new social relationships come into being, ultimately integrating them into one community, there is

---

*The authors wish to express their grateful thanks to the Relief and Rehabilitation Directorates, Government of West Bengal, for their kind permission which has enabled the junior author to stay in the Cooper's Camp, Ranaghat, and make an on-the-spot study. They are also thankful to the staff of the Cooper's Camp for providing all possible facilities in carrying out the investigation.

practcally no, or only a very loose, control among the heterogenous population. At this stage, sex relations of a pattern which could hardly have been imagined in a settled society often come into being.

The general sex life of the refugees was studied by the junior author at Cooper's Camp at Ranaghat in the Nadia District of West Bengal during September-November, 1952, which was at that time the largest of its kind in India, with approximately thirty thousand inmates. Data were collected (i) by personal interviews, (ii) from office records and (iii) from verbal reports given by the refugees themselves, members of the administrative staff and medical officers. These reports were verified later as far as practicable.

The following objective social conditions were observed in the Camp at that time, and the study was carried out against these conditions.

Housing

Refugees are accomodated in three different types of houses, viz., godowns, hutments, and tents. Godowns are big Nissen huts of square size which accomodate 70 families each on the average. There are very few openings for ventilation and no partitions inside. The inhabitants huddle together and privacy of any kind does not exist. The hutments are long huts each accomodating 5 families. Each hutment has five doors and five windows. There are no partitions inside, though refugees have erected temporary partitions with gunny bags, coco-nut leaves or jute stalks in some huts. Acute congestion and lack of privacy also prevail here. Tents accommodate one family each, though the space inside is absolutely inadequate for an average family of 5 members.

Water points are common and there is 1 tube-well for every 240 heads. One can imagine the congestion near a tube-well which is a breeding ground for quarrels, caste-frictions and immorality. Men and women, young and old, wash themselves and change clothes in the glare of public gaze. There are separate latrines for women, though these are adjacent to those for men. For every 24 heads there is 1 seat. These latrines are

constructed on the shifting well-latrine system and are situated in the fields away from the huts due to sanitary reasons.

Economic Conditions

Refugees get a cash dole of Rs. 2/8/- per adult, Rs. 1/4/- per child, and a dry dole of 1 sr. of rice, 1 sr. of atta and ½ sr. of dal per adult, and ½ sr. of rice, ½ sr. of atta and ¼ sr. of dal per child on a weekly basis. Both refugees and the camp authorities are of opinion that the quota of dry dole is insufficient. This insufficient amount and the prolonged dependence on Government doles have been responsible for the growth of a beggarly attitude. Refugees supplement this meagre amount by working as hired labourers in nearby fields or opening stalls in the camp bazaar. Excepting a few, the majority derive little benefit out of their small business. All shop-keepers have to pay a licence fee varying from Rs. 5/- to Re. 1/- per month. Those who work in other concerns also get very little remuneration.

The system of doles has brought an equality of income to all and sundry. The fixation of a ceiling on the supply of doles has resulted in the splitting up of numerous families. The composition of these split-up families is often unnatural, e.g., the junior author has seen men living with their elder brother's wife's sister, daughter-in-law etc.

Social Control

The most important effect of such a life is a complete lack of social control. People of all castes and classes from widely different regions, who are complete strangers to one another, huddle together. No community life, no neighbourly feeling, has developed up to now. A sense of responsibility and fear of social punishment which play a great part in checking anti-social desires in an individual in a settled and normal society, are virtually absent here. Just as in a crowd, an individual loses all sense of restraint and gives free play to his hitherto suppressed desires, so also here an individual behaves like a free man. He has no social responsibility to bear and no punishment to be afraid of.

When there is no social control among the refugees themselves, the role of the camp authorities becomes very important,

because it is only they who can enforce whatever control they feel necessary. Moreover, the actions taken by them have the force of law behind. But regarding the sex life of the refugees, the camp authorities follow a policy of 'non-interference'. Thus when illegal sexual relationships are not objected to by the authorities, they become rampant.

This lack of social control, the economic condition and the inactivity of the menfolk have given impetus to feminism. Women who used to live behind closed doors only yesterday, are today freely moving about and mixing with all sorts of people in the bazaar, in front of the tube-well and at other places of common contact.

Sex Composition

The sex composition of the refugees on 30-12-52 was as follows :—

Total population	29,000
Adult Male (above 18 years)	8,310
Adult Female (do.)	7,713
Minor Male (8-18 years)	4,448
Minor Female (do.)	4,088
Children Male (up to 8 years)	2,731
Children Female (do.)	2,610

The number of adult women per 1000 adult men comes to 969·8. Though no official statistics are available, the number of widows among these is evidently very large. Their presence along with the married women lessen the number of marriageable women to a great degree.

A Historical Factor

Along with these objective conditions, a historical or cultural factor should also be taken into account. Sexual life is usually a bit loose among people who usually colonize the *char* regions, i. e. riverain islands, of southern Bengal. This is especially true of people belonging to the so-called 'lower' castes. This characteristic has been acquired under certain objective conditions. Of the inmates of Cooper's Camp, 62·5 percent belong to the

so-called 'lower' castes, among whom people from southern Bengal, viz., Barisal, Khulna, etc., form the majority.

Against these conditions, the sex life was studied on the following lines :

(1) Normal sex relations that are approved by law and custom ;

(2) Abnormal sex relations not approved by law and custom.

Under the former, marriages, and under the latter illegitimacy, prostitution and other illegal sex relations were studied. These studies were not made on a quantitative basis, because the office keeps only partial records of marriages, and regarding illegitimacy etc., no records at all. It is impossible to get the correct total number of these cases and their particulars, and sampling of any kind was out of question. It is needless to add that the findings recorded in this paper hold true under the above artificial conditions of a transit camp, and a study of the sex life in a rehabilitation centre may give quite different results.

I. Marriage [1]

Case 1[2]

S. of H Block was married to B. on 8-4-52 ; both the bride and bridegroom are Kayastha by caste and come from Barisal. The father of the bride was a Kaviraj in Pakistan. The bridegroom was never an inmate of the camp and is at present a railway clerk at Barisah in Manbhum. The marriage was settled through common relatives.

Case 2

P. of H Block was married to an employee of the Sanitary Section of the Public Health Dept. in the camp on 26-4-52. Both the bride and bridegroom are Brahman by caste. The bride comes from Faridpur and the bridegroom comes from Dacca. Marriage was settled through normal negotiation.

---

[1] Cases given here took place in G. and H Blocks during April—October, 1952. Cases 1—5 were collected from office records and particulars were collected afterwards by interviewing the parents and the neighbours of the parties. Cases 6—15 were collected from unofficial sources.

[2] Names and other particulars are suppressed for obvious reasons. If any reader wants more information, he may have them from the authors.

K. of G Block was married to R. on 23-5-52. Both the bride and bridegroom are Tili by caste. The bride comes from Dacca, while the bridegroom comes from Mymensingh. The father of the bride was a small trader in Pakistan. The bridegroom was never an inmate of the camp and has a small business outside the camp. The marriage was settled through normal negotiation.

Case 3

K. of G Block was married to a man who was a camp inmate on 8-7-52 (name not available). A remark in the office register says, 'Refused marriage grant as the girl was married before. On enquiry it was found that the family have left the camp. Neighbours who lived in the same room reported that both the girl and the man were Namasudra by caste, and there was no marriage ceremony of any kind. The girl and the man just began living together. They could not give the name of the previous husband of the girl, his whereabouts or any other details'.

Case 4[3]

M. of G Block was married to A. on 21-8-52. The father of the bride was a small trader in Pakistan and has a small shop in the camp bazaar. He is Malakar by caste and comes from Faridpur. The bridegroom is Namasudra by caste and is a local inhabitant. Before the marriage the bridegroom's party showed eagerness. They said that they were Kayasthas and promised a certain amount of money. After the marriage had taken place it was discovered that the bridegroom was not a Kayastha but a Namasudra. Serious ill-feeling ensued and is still continuing. The promised money is also alleged to have remained unpaid.

Case 5

B. of H Block was married to a man who was not an inmate of the camp in January 1952. Both the bride and bridegroom are Kayastha by caste. The bride comes from Barisal while the bridegroom's home is in Tripura and he is at present a mill-worker at Konnagar. The negotiation was made on the railway platform of Sealdah, where the bride's family was staying before coming to this camp

Case 6

[3] The office keeps a partial register of marriages, entering only those cases where a monetary grant has been made to the bride's party only on the understanding that the couple will leave the camp after marriage.

and where the bridegroom made a chance acquaintance with them. The marriage took place in the camp. It was discovered later, that the man stays with another woman illegaly at Konnagar. Relation became very bitter and the girl has returned to her parents in the camp.

Case 7

S. (age 28) of H Block was married to S. (age 40) of H Block. The bride is Napit by caste and comes from Barisal. The bridegroom is a Kayastha and comes from Faridpur. The woman was a widow and has a little son. The bridegroom was a widower and had no issue. The negotiation was made by common acquaintances and the marriage took place in the hut of the bride.

Case 8

S. (age 12) of H Block was married to T. (age 25) of H Block. The bride is a Kayastha and comes from Tripura. The bridegroom is also a Kayastha and comes from Barisal. He keeps a shop in the camp bazaar. The marriage of the girl had been settled with another man of Calcutta. The latter could not get leave from his office for the marriage ceremony. Under such circumstances this marriage took place. The bridegroom was known to the family for some time.

Case 9

F. (age 30) of H Block was married to B. (age 35). Both of them used to stay in the same hut and both are Matsyajibi by caste. The bride comes from Noakhali and the bridegroom from Faridpur. F. was married before and has a son by her previous husband. The previous husband is missing though there are reasons to believe that he is alive. She became acquainted with B. who lives in the same hut. B. was a widower and has no issue. The peculiarity of this case is that the negotiation was made by the previous father-in-law of B., i.e., father of his dead wife. B. sells fish in the camp bazaar.

Case 10

M. (age 25) of H Block was married to A. of H Block. Both of them are Namasudra by caste and come from Khulna. M. became a widow when she was a child and had no issue. She fell in love with A. a young unmarried Namasudra in the camp. At the time of marriage she was pregnant and was carrying for 6 months.

P. (age 20) of H Block was married to N. of H Block. Both are Kayastha by caste and both belong to Khulna. P. became a widow when she was a child and is issueless. N. was married and his previous wife is still in Pakistan. His name was included in the ration card of another family. After the marriage he has got a separate family ration card issued for him and his present wife. His excuse is that at the time of rehabilitation he will get more facilities by having a family.

Case 11

G. (Namasudra) of H Block was married to D. (Kayastha), an inmate of the camp. G. was married before and her husband was in Pakistan at the time of marriage. D. was unmarried and came to this camp with two Namasudra widows. He told his neighbours that they were his sisters. On enquiry it was found that he became acquainted with the two women on the railway platform of Sealdah and were Namasudras. One of the women became pregnant in the camp. G. knew all this, yet she was desperately in love and made illegal connections with D. even before marriage. After the marriage they left the camp, but very soon G. came back and said that she was no longer wife of D. D. did not return.

Case 12

S. (age 15), Namasudra of G Block, has been married twice by her parents. In the first marriage her parents received Rs. 120/- in cash from the bridegroom. The bridegroom was an inmate of the camp belonging to the same caste but has left the camp and is living in Pakistan. In his absence, she was married again to another inmate of the camp. This time her parents received Rs. 60/- in cash. The first husband has no knowledge of this marriage.

Case 13

P. of G Block, Matsyajibi, has her husband in Pakistan. She fell in love with another man of the same caste and became very eager to marry him. Her parents raised objections. She pleaded her case before the parents and neighbours who sat in council. Her arguments were : (i) that there was no prospect of her husband's coming over to India, (ii) she was in the prime of her youth and she did not want to waste it, (iii) she did not like her previous husband's

Case 14

appearance ; under these circumstances she had the right to choose her man. It may be added here that her new man was also not very handsome in appearance. The council of neighbours and parents had to submit to these arguments.

A. of G Block, Paundra Kshatriya by caste, came over to West Bengal a year ago with her brother-in-law. Her husband remained in Pakistan. They received one family ration card in this camp ; and lived together. After some months she became pregnant. With the permission of her brother-in-law, she married an inmate of the camp in this condition and went and lived with him. This man went to Pakistan on some work and was absent for a month or so. In the meantime she made contact with another man (Namasudra) and married him. She is now living with this husband.

Case 15

The points to be noted about these marriages are :

(1) Some of the cases cannot be called marriages in the legal sense. But the callousness of the refugees and the passive role of the law as expressed by the attitude of the authorities do not put any hindrance to such ceremonies. Moreover, with the passage of time, refugees are getting used to such things and express their passive approval by referring to these cases as 'marriages'.

(2) Priests were available in almost all cases. There are 38 priests families living in the camp under the same economic distress. They are available on the promise of a meagre sum and conduct marriage ceremonies which they would have shuddered to conduct in their native villages.

(3) In a Hindu marriage, there are two parts. The Vedic part consists of *homa* and recitation of sacred *mantras*. It gives the marriage religious sanctity. The other part consists of the performance of some local customary rites, through which the community gives its assent to the marriage. In the above cases, the parties did not always care for the religious ceremony. They merely performed the customary marriage rites which were in vogue at their homes or in their castes (*stri-achara*).

(4) The stress and strain of the situation have given impetus to hasty marriages which break down very quickly.

(5) Inter-caste marriages have taken place, though some through ignorance.

(6) Irregular unions have taken place mainly among the so-called 'lower' castes.

(7) Marriage of widows is one of the important points to be observed. In such cases neighbours have not only given assent but have often taken the initiative. Caste was no bar in these marriages.

(8) Though no statistics are available, it is unanimously reported that marriages take place in large numbers even during those months when they do not take place according to Hindu custom. The reasons are, firstly, a conspicuous lack of conformity to religion and custom, and secondly, the prevailing economic conditions. Economic distress and equality favour such a large number of marriages. The marriage ceremony has been reduced to the mere performance of some rites which cost nothing, and in the majority of cases no question of any dowry arises.

(9) In some cases parents have utilized their daughters for pecuniary gain, as in case No. 13.

II. Illegitimacy

The verbal reports of the refugees, members of the administrative staff and medical officers prove beyond doubt that such cases are very common. Unfortunately, there is no arrangement for keeping official records of these cases. In the majority of these cases the expectant mothers desert the camp for fear of police action. According to reports, dead bodies of just-born children are discovered almost every fortnight, in the latrines, fields, drains and even on the roads of the camp. In almost every case, the child is found dead and it is difficult to say whether it was killed or was still-born. The junior author saw one such case where a pair of just-born twins were lying in a lane in the camp. They were admitted into the hospital and later died.

In some cases, it is possible to trace out the mother. In most of such cases, the mothers were widows and above 35 years. In the women's camp, a camp exclusively for women and children adjacent to the Cooper's Camp, 6 women had illegitimate conceptions during the first 6 months of 1952. All were widows

and three of them were above 40 years. Another extraordinary incident occurred in the Rupasree Palli camp, a camp for permanent liabilities adjacent to the Cooper's Camp, where a widow demanded in the crowded office, rations for her new-born illegitimate child.

Cases of illegitimacy generally occur among the so-called 'lower' castes although some cases were reported among the higher castes also. Though unmarried girls are involved in some cases, in the majority of cases the mothers are widows. Their age generally is above 35. This may be taken as a case where lack of social control gives impetus to the satisfaction of hitherto suppressed sex desires. From the psychological point of view, this may be interpreted as a not unnatural expression of longing for home and children among women, and particularly among young widows.

III. Prostitution

Cases of prostitution in the accepted sense of the term are rare. Office records only mentioned one such case. One U. used to carry on her trade inside the camp. Her ration card was cancelled and she was compelled to leave the camp. But the economic reasons which generally drive a woman to prostitution are always present and there are numerous reports which show how women sell themselves for a handful of coal or coins or a piece of cloth etc.

IV. Illegal Sex-relationship

As is evident, it is not possible to keep records of illegal relationships in a population of 30,000. Even those cases which are brought to light are not recorded. Under such circumstances, only descriptions of case-types and not the actual cases can be stated.

Types of cases :—

(i) Husband having extra-marital connection with a second woman.

(ii) Wife „ „ „ „ another man and often deserting her husband.

(iii) Woman having extra-marital connection with her step son.

(iv) Woman having „ „ „ husband's elder brother.

(v) Woman having „ „ „ husband's younger brother.

(vi) Woman having „ „ „ sister's husband.

(vii) Woman having „ „ „ persons living outside the camp.

(viii) Woman having „ „ „ relatives of neighbours.

In many cases these visitors are complete strangers to her.

The following conclusions may be drawn from the above types :

(1) The majority of cases occur among the so-called 'lower' castes, though cases among the higher castes are also not few.

(2) Relations between the higher and the lower castes are few.

(3) Age is no bar. Women on the wrong side of 40 often have connections with young men, even with boys.

(4) There is no authority to enforce sex taboos, and it solely rests on the individual to maintain the taboo himself or herself with which he or she was habituated before. Violation of taboos in regard to consanguinous relations or establishment of incest relations are rare, though taboos on widows and on marriages with distant relations by birth or by marriage do not exist at all.

A SHORT STUDY OF BLOOD GROUPS AMONG RAJPUTS OF SUB-HIMALAYAN HILLS

By S. K. KAUL

Department of Anthropology,

University of Delhi

During the years 1949, 1950 and 1951, an investigating team of the Department of Anthropology, Delhi University, visited Jaunsar-Bawar and Tehri Garhwal, both situated in Uttar Pradesh, and also worked among the Kanaits of the Simla Hills. Apart from a cultural study, blood group investigations were carried out among these people. The data collected were not considerable and hence the purpose of this paper is to give the results secured and analyse them in the light of results already obtained by other authors.

The data at Jaunsar-Bawar were collected in villages around Chakrata and at the court in the town itself where people come from different parts of the territory. In Tehri Garhwal most of the data were collected at the Intermediate College in Tehri Town. The results are presented in Table 1.

Dr. D. N. Majumdar has studied separately the Rajputs, the Brahmins and the Artisan Class in Jaunsar-Bawar and it is interesting to compare his results with those mentioned in Table 1 above. The comparison is given in Table 2.

From Table 2, S. Nos. 1 and 2, it is clear that as the value of D/σ in the Rajput data collected by the Delhi University and Dr. Majumdar is less than unity in both the cases, there seems to be less intermixture in the Rajputs. Chi-square has been calculated to test the homogeneity of the data collected by the Delhi University and Dr. Majumdar. From S. No. 7 it is evident that the value of chi-square is not significant. Comparing S. Nos. 3 and 4 we find that the value of D/σ in both cases is less than unity and that the probability, P, of chi-square is not

TABLE 1

S. No.	Locality	Population	No.	O	A	B	AB	O %	B%	A%	AB%	p	q	r	Investigator
1	Jaunsar-Bawar	Rajputs	20	5	5	9	1	25·0	45·0	25·0	5·0	·20791	·33760	·49906	Delhi University
2		Koltas	25	6	5	8	6	24·0	32·0	20·0	24·0	·25582	·34165	·40653	do.
3		Artisan class	10	4	3	3	0	40·0	30·0	30·0	0	·20421	·20421	·63245	do.
4	Tehri Garhwal	Rajputs	50	15	23	5	7	30·0	10·0	46·0	14·0	·32407	·08473	·54772	Kaul
5	Simla Hills	Kanaits (Rajputs)	17	5	3	8	1	29·41	47·06	17·65	5·88	·14367	·33087	·54232	Delhi University

TABLE 2

S. No.	Locality	Population	No.	O%	A%	B%	AB%	p	q	r	D/σ	Investigator
1	Jaunsar	Rajputs	20	25·0	25·0	45·0	5 0	·20791	·33760	·49906	·76967	Delhi University
2		Rajputs	118[1]	33·8	31·7	26·2	8·3	·22794	·19309	·58188	·13382	Majumdar
3		Artisan Class	108[2]	25·44	23·86	40·50	10·20	·19776	·30758	·50437	·48106	Majumdar
4		Artisan Class	35[3]	28·6	22·9	31·4	17·1	·18151	·28970	·53477	·69838	
5		Koltas	25	24·0	20·0	32·0	24·0	·1783	·2584	·4900	·06705	Delhi University
6		Artisan Class	10	40·0	30·0	30 0	0	·20421	·20421	·63245	·71229	

7. S. Nos. 1 and 2 X^2=2.94845 ; P=0·30
8. S. Nos. 3 and 4 X^2=1·71117 ; X=0·50
9. S. Nos. 5 and 6 X^2=4 638284 ; P=0·20

For footnotes 1, 2, 3 and 4, please see page 70.

again not significant and thus the two samples are not significantly different from each other.

Dr. Majumdar has included Koltas among the Artisan Class in Jaunsar-Bawar, but it is evident from the above table, Nos. 5 and 6, that the value of D/σ in case of Koltas is very low compared to Artisan Class No. 6 in the same table. It will be obvious from these values that they should not be grouped together. The smallness of the data makes it difficult to say anything with exactitude, but it can be suggested that more data on Artisan Class, excluding Koltas, should be studied. Chi-square and the probability worked out from it on 3 degrees of freedom is no doubt not significant, yet it is to be noted that the Artisan sample is very small, in fact there are only three class frequencies.

There are three distinct social strata in the population of Jaunsar. The Brahmins and the Rajputs form the upper class, the Koltas, their menials and agricultural slaves, the lowest, while the Artisan Class is intermediate between the two. The social as well as somatometric data collected during the trip to Jaunsar-Bawar in collaboration with the serological difference between the Rajputs and Koltas, clearly indicate that the two do not belong to the same ethnic stock and the same reasoning holds good in the case of Koltas and Artisan Class, but more data are necessary before coming to any conclusion in the latter case.

In Table 3 the Tehri Garhwal data are studied with the help of data collected by other authors.

---

[1] Majumdar, D. N. *The Fortunes of Primitive Tribes*. Lucknow, 1944. p. 117

[2] ,, ,, ,, *The Eastern Anthropologist*. Vol. 1, Sept. '47, p. 10, Table 1. Majumdar gives a different percentage in *Races & Cultures of India*. Lucknow, 1944, Table VI, S. No. 15 page 62.

		O	A	B	AB	
	Percentage	25·00	24·07	40·74	10·19	*Races & Cultures of India.*
Absolute No.	Calculated	27	25·99	43·99	11	
	Percentage	25·44	23·86	40·50	10·20	*Eastern Anthropologist.*
Absolute No.	Calculated	27.47	25·76	43·73	11·02	

It is not understood how Majumdar got mathematically the percentages for O, A, B & AB Blood Groups different in the same sample of 108 individuals.

[3] Number 35 includes 25 Koltas (S. No. 5) plus 10 Artisan Class (S. No. 6)

[4] Yates correction has not been used as it will only decrease the value of X^2, it does not affect the result.

TABLE 8

S. No.	Population	Locality	No.	O%	A%	B%	AB%	p	q	r	Investigator.
1.	Hindus, Gurkhas, Garhwalies, Rajputs, Jats, Kumaonis.	N. W. India and Sub-Himalayan Region.	1,000	31·30	19 00	41·20	8·50	·149	·291	·559	Hirschfeld
2.	Rajputs	Rajputana	118	28·80	28 00	33·00	10·20	·214	·246	·537	Malone and Lahiry
3.	Jats	Punjab and Kashmir	277	33·20	24 50	35·50	6·80	·171	·240	·576	Do.
4.	Khatris	Do.	99	33·30	25·30	30·30	11·10	·203	·234	·577	Do.
5.	Garhwalis	Tehri Garhwal	50	30·00	44·00	10·00	14·00	·32407	·08478	·54772	Kaul

It is evident from Table 3, S. No. 1 of Hirschfeld's data, that among the populations S. Nos. 2, 3, and 4, a high frequency of q is to be expected. But according to Drs. B. K. Chatterjee and A. K. Mitra, 'they do not justify these expectations'[1].

Nothing is known about the blood groups of the Kumaonis and Nepalese [2], and on the basis of the small Tehri-Garhwal data much cannot be deduced. But this much can be said definitely that the frequency of q is not high among the Garhwalis.

We know historically that in Garhwal there has been considerable intermixture with the people of the plains as well as the hills. All agree that the Brahmins and the Rajputs do not belong to Garhwal but came from outside. No exact date can be given of their entry into Garhwal, but from a study of the *gotras* it seems likely that these persons came from different parts of India. Two distinct divisions are to be found among the Rajputs, namely, true Rajputs and Khas Rajputs. The latter are considered to be the descendants of those families which ruled over, Garhwal prior to its invasion from the plains, or the result of illicit connection between the true Rajputs and Khas women. Whether there is serologically any difference between true Rajputs and Khas Rajputs should be investigated.

The percentage of AB in our sample (S. No. 5) as found is 14% higher when compared to others in Table 3. The value calculated for D/σ of the sample is 2·0604, high enough to indicate an admixture in the Tehri Garhwal population.

The value D/σ calculated in case of Kanaits of Simla Hills is ·34137, low enough to indicate as among the Rajputs of Jaunsar-Bawar Table 2, S. No. 2, that admixture is not considerable.

---

[1] Chatterjee, B. K. and Mitra, A. K. 'Blood group distribution of the Bengalis and their comparison with other Indian races and castes'. *Indian Culture*, Vol. VIII, Nos. 2 and 3, p. 7. [The above data (S. Nos. 1 to 4) is taken from this paper].

[2] Macfarlane, E. W. E. *Man* Vol. XXXVI Aug. 1937, Nos. 155-178 'Eastern Himalayan Blood Groups' gives data on a mixed sample of 78 Nepalese of Kalimpong and is not a true picture of the Nepalese blood group.

[PUB]LIC LIBRARY
14 APR 1953
MADRAS

MISCELLANEOUS CONTRIBUTIONS

1. Statement on the Nature of Race and Race Differences *by* PHYSICAL ANTHROPOLOGISTS and GENETICISTS

(*September 1952*) *

1. Scientists are generally agreed that all men living today belong to a single species, Homo sapiens, and are derived from a common stock, even though there is some dispute as to when and how different human groups diverged from this common stock.

The concept of race is unanimously regarded by anthropologists as a classificatory device providing a zoological frame within which the various groups of mankind may be arranged and by means of which studies of evolutionary processes can be facilitated. In its anthropological sense, the word 'race' should be reserved for groups of mankind possessing well-developed and primarily heritable physical differences from other groups. Many populations can be so classified but, because of the complexity of human history, there are also many populations which cannot easily be fitted into a racial classification.

2. Some of the physical differences between human groups are due to differences in hereditary constitution and some to differences in the environments in which they have been brought up. In most cases, both influences have been at work. The science of genetics suggests that the hereditary differences among populations of a single species are the results of the action of two sets of processes. On the one hand, the genetic composition of isolated populations is constantly but gradually being altered by natural selection and by occasional changes (mutations) in the material particle (genes) which control heredity. Populations are also affected by fortuitous changes in gene

* The following statement has been received from the United Nations Educational, Scientific and Cultural Organization through the courtesy of Prof. K. P. Chattopadhyay who attended the conference in Vienna in September 1952.

frequency and by marriage customs. On the other hand, crossing is constantly breaking down the differentiations so set up. The new mixed populations, in so far as they, in turn, become isolated, are subject to the same processes, and these may lead to further changes. Existing races are merely the result, considered at a particular moment in time, of the total effect of such processes on the human species. The hereditary characters to be used in the classification of human groups, the limits of their variation within these groups, and thus the extent of the classificatory subdivisions adopted may legitimately differ according to the scientific purpose in view.

3. National, religious, geographical, linguistic and cultural groups do not necessarily coincide with racial groups; and the cultural traits of such groups have no demonstrated connexion with racial traits. Americans are not a race, nor are Frenchmen, nor Germans; nor *ipso facto* is any other national group. Muslims and Jews are no more races than are Roman Catholics and Protestants; nor are people who live in Iceland or Britain or India, or who speak English or any other language, or who are culturally Turkish or Chinese and the like, thereby describable as races. The use of the term 'race' in speaking of such groups may be a serious error, but it is one which is habitually committed.

4. Human races can be, and have been classified in different ways by different anthropologists. Most of them agree in classifying the greater part of existing mankind into at least three large units, which may be called major groups (in French *grand races*, in German *Hauptrassen*). Such a classification does not depend on any single physical character, nor does, for example, skin colour by itself necessarily distinguish one major group from another. Furthermore, so far as it has been possible to analyse them, the differences in physical structure which distinguish one major group from another give no support to popular notions of any general "superiority" or "inferiority" which are sometimes implied in referring to these groups.

Broadly speaking, individuals belonging to different major groups of mankind are distinguishable by virtue of their physical

characters, but individual members, or small groups, belonging to different races within the same major group are usually not so distinguishable. Even the major groups grade into each other, and the physical traits by which they and the races within them are characterized overlap considerably. With respect to most, if not all, measurable characters, the differences among individuals belonging to the same race are greater than the differences that occur between the observed averages for two or more races within the same major group.

5. Most anthropologists do not include mental characteristics in their classification of human races. Studies within a single race have shown that both innate capacity and environmental opportunity determine the results of tests of intelligence and temperament, though their relative importance is disputed.

When intelligence tests, even non-verbal, are made on a group of non-literate people, their scores are usually lower than those of more civilized people. It has been recorded that different groups of the same race occupying similarly high levels of civilization may yield considerable differences in intelligence tests. When, however, the two groups have been brought up from childhood in similar environments, the differences are usually very slight. Moreover, there is good evidence that, given similar opportunities, the average performance (that is to say, the performance of the individual who is representative because he is surpassed by as many as he surpasses), and the variation round it, do not differ appreciably from one race to another.

Even those psychologists who claim to have found the greatest differences in intelligence between groups of different racial origin, and have contended that they are hereditary, always report that some members of the group of inferior performance surpass not merely the lowest ranking member of the superior group, but also the average of its members. In any case, it has never been posssible to separate members of two groups on the basis of mental capacity, as they can often be separated on a basis of religion, skin colour, hair form or language. It is possible, though not proved, that some types of innate capacity for intellectual and emotional responses are

commoner in one human group than in another, but it is certain that, within a single group, innate capacities vary as much as, if not more than, they do between different groups.

The study of the heredity of psychological characteristics is beset with difficulties. We know that certain mental diseases and defects are transmitted from one generation to the next, but we are less familiar with the part played by heredity in the mental life of normal individuals. The normal individual, irrespective of race, is essentially educable. It follows that his intellectual and moral life is largely conditioned by his training and by his physical and social environment.

It often happens that a national group may appear to be characterized by particular psychological attributes. The superficial view would be that this is due to race. Scientifically, however, we realize that any common psychological attribute is more likely to be due to a common historical and social background, and that such attributes may obscure the fact that, within different populations consisting of many human types, one will find approximately the same range of temperament and intelligence.

6. The scientific material available to us at present does not justify the conclusion that inherited genetic differences are a major factor in producing the differences between the cultures and cultural achievements of different peoples or groups. It does indicate, on the contrary, that a major factor in explaining such differences is the cultural experience which each group has undergone.

7. There is no evidence for the existence of so-called "pure" races. Skeletal remains provide the basis of our limited knowledge about earlier races. In regard to race mixture, the evidence points to the fact that human hybridization has been going on for an indefinite but considerable time. Indeed, one of the processes of race formation and race extinction or absorption is by means of hybridization between races. As there is no reliable evidence that disadvantageous effects are produced thereby, no biological justification exists for prohibiting intermarriage between persons of different races.

8. We now have to consider the bearing of these statements

on the problem of human equality. We wish to emphasize that equality of opportunity and equality in law in no way depend, as ethical principles, upon the assertion that human beings are in fact equal in endowment.

9. We have thought it worth while to set out in a formal manner what is at present scientifically established concerning individual and group differences.

(1) In matters of race, the only characteristics which anthropologists have so far been able to use effectively as a basis for classification are physical (anatomical and physiological).

(2) Available scientific knowledge provides no basis for believing that the groups of mankind differ in their innate capacity for intellectual and emotional development.

(3) Some biological differences between human beings within a single race may be as great as or greater than the same biological differences between races.

(4) Vast social changes have occurred that have not been connected in any way with changes in racial type. Historical and sociological studies thus support the view that genetic differences are of little significance in determining the social and cultural differences between different groups of men.

(5) There is no evidence that race mixture produces disadvantageous results from a biological point of view. The social results of race mixture for good or ill, can generally be traced to social factors.

(Text drafted, at Unesco House, Paris, on 8 June 1951, by : Professor R. A. M. Bergman, Royal Tropical Institute, Netherlands Anthropological Society, Amsterdam ; Professor Gunnar Dahlborg, Director, State Institute for Human Genetics and Race Biology, University of Uppsala ; Professor L. C. Dunn, Department of Zoology, Columbia University, New York ; Professor J. B. S. Haldane, Head, Department of Biometry, University College, London ; Professor M. F. Ashley Montagu, Chairman, Department of Anthropology, Rutgors University, New Brunswick, N. J. ; Dr. A. E. Hourant, Director, Blood Group Reference Laboratory, Lister Institute, London ; Professor Hans Nachtsheim, Director, Institut fur Genetik, Freie Universitat, Berlin ; Dr. Eugene Schreider, Directeur adjoint du

Laboratoire d' Anthropologie Physique de l' Ecole des Hautes Etudes, Paris; Professor Harry L. Shapiro, Chairman, Department of Anthropology, American Museum of Natural History, New York; Dr. J. C. Trevor, Faculty of Archaeology and Anthropology, University of Cambridge; Dr. Henri V. Vallois, Professor au Museum d' Histoire Naturelle, Directeur du Musee de l'Homme, Paris; Professor S. Zuckerman, Head, Department of Anatomy, Medical School, University of Birmingham. Professor Th. Dobzhansky, Department of Zoology, Columbia University, New York, and Dr. Julian Huxley contributed to the final wording).

2. The Anthropologist's laboratory is the field*

Anthropology, the Science of Man, is divided into two broad sections. One is concerned with the physical aspect of man and the other with his behaviour; these being known respectively as Physical and Cultural Anthropology. British anthropologists like Henry Balfour, Marett or Haddon regard Anthropology in general as divisible into three sections dealing with: (1) Physical characters, (2) Social and (3) Material Culture.

Malinowski has said of material culture: 'As a sociologist I have always had a certain amount of impatience with the purely technological ethusiasms of the museum ethnologist. In a way, I do not want to move one inch from my intransigent position that the study of technology alone......is scientifically sterile. At the same time, I have to realise that technology is indispensable as a means of approach to economic and sociological activities and to what might be called native science'.

The place for physical science is in the laboratory room, whereas for biological science, particularly for Anthropology, the laboratory is the field. Hence it is that the latter are called field sciences. To carry on his work, an anthropologist observes village folk, visiting their huts, listening to their tales, joining in their social and religious rites and observing their behaviour,

*This note is specially meant for students working for their Degree examination in Anthropology.

manners and customs. Usually an anthropologist carries on field studies among people who are outside the main historical stream. Often these people live in far-off places, particularly in the hills and jungles, where they eke out a miserable existence, and to reach them an anthropologist may on occasions have to face many difficulties such as physical dangers,diseases, lack of transport, food etc. But this aspect of the anthropologist's work is covered by romanticism and the spirit of adventure and thus has an appeal for the public ; it has been consequently often over-stressed. But real field-work is a scientific discipline. This makes vigorous demands on the patience, perseverance and sense of humour of the anthropologist.

An anthropologist studies the people among whom he lives and works, because from them he can gather data that will throw light on the main problems of his science.

One fundamental necessity of anthropological research is the exercise of scientific detachment, which in turn calls for a rigid exclusion of value judgements. As a chemist devotes himself to the understanding of the elements he is analysing, and their behaviour in relation to each other, so an anthropologist must observe, describe and analyse the traditions of the people he is studying without, or with as few, personal preferences as possible.

Literature is very poor in supplying a description of the actual methods used by the anthropologist in the field, though these practically form the basis from which anthropology makes one of its most important contributions to science. An anthropologist's difficulty in describing his method arises out of the difference in the materials he deals with and those dealt with by the laboratory scientist. The success of his work depends mainly on two factors :

(1) His sensitiveness to varied situations ;
(2) Interplay between his personality and the personality of those with whom he deals.

An anthropologist gets fact after fact in the field. As digested after his return from the field, the experience is presented in a monograph in the form of a generalized statement.

Malinowski, in his book entitled *The Argonauts of the Western Pacific* has given explicit expression to the necessity for the

inclusion of a statement of field procedure in a report of the results of field-work. His enunciation of field methods stands thus : An anthropologist must 'possess real scientific aims, and know the values and criteria of modern ethnography' ; that he should 'in the main,......live......right among the natives' ; and that 'he has to apply a number of special methods of collecting, manipulating and fixing his evidence'.

Unfortunately, in one prevalent method of collecting data, the anthropologist does no more than go to the field and remain in the dak bungalow or pitch a tent in the town, call up and question the people known as 'informants' about their manners and customs, and sometimes, if he wishes, he also goes and observes them in their own homes. This method has been called the method of 'Participant Observation' ; but, we believe, it is open to severe criticism.

Herskovits has said : 'See as much as you can, participate whenever you are permitted to do so, and compound your experiences by discussing them formally and informally with natives as widely as you are able'. Such an application recognizes that there are as many situations to be met with in carrying on field-work as there are peoples. There cannot be a single method. This is well illustrated in the field reports of Evans-Pritchard among the Nuer and the Azande of East Africa. The Nuer treated him as an equal, but the Azande, as a superior. He was compelled to be a member of the Nuer people, whereas among the Azande he had to live outside the community. While working among the Bunas, the Noluas and the Parois of Bengal, the writer did not have to face any difficulty. All of them treated him as an equal, though he was only living near their villages. But while working among the Malos (Jele—a fishing caste) of Bengal, the author got the opportunity of living in one of their huts and was able to follow what Herskovits has advised, i.e. mixing with them as one of them and also collecting data by direct observation both during day and night, in some cases the latter being checked up through the genealogical method. So it is necessary that an anthropologist must pitch his tent or find a house where he can be very close to the people. But it is their reactions, not his wishes, that will dictate how close he can come to them

and how much he can participate in their lives for his observation.

Pitching the tent or settled in a village, an anthropologist has to face the initial problem of contacting the people. The sorting out process is crucial to success in field-work. First of all, an anthropologist should begin to make friends with the people. Field experience will soon teach him that, no matter how different in somatic characters or cultural habits a people may be, there will always be some among them for whom he will develop a personal regard and with whom the relationship will be close. Others among them will be unkind, but they should not be feared or avoided, as an anthropologist has to learn everything about the personality of these people and also the tensions existing in the group.

To get information, an anthropologist has to depend on the nature of study to be conducted, the kind of people to be studied and the mode of life they lead. Exclusive use of observation or entire reliance on one informant is not desirable. To take a walk through the village is helpful for the first day's impression of the people. Curiosity will bring the people to one's dwelling, contact will be established. Where such contact is not established, observation and casual conversation may, for some days, be the only source of information. Informants are essential if an anthropologist wants to have a full knowledge of the people and their life. An anthropologist cannot have his field trips for an indefinite duration. It might be that during his field-work period every happening, such as a birth, a wedding, a funeral, might not take place. But an account of such important rites must be included in a full description of the people.

Every culture presents many facets and different people in the same society view their common ways of life differently. So it is advisable that reliance on one informant should never be made, though it is inevitable that one or two persons will figure more in this capacity than others.

For many years, it was practically an axiom of field-work that only elders of the village could depict a true picture of the people to the anthropologist. But changes in the angle of vision have taken place. Men behave differently from women,

young people from those who are old. A valuable suggestion is to talk to both men and women, young and old, to observe a wide range of persons under as many situations as possible. A number of informants as far as possible to supplement observation is very important for checking information, whether for omissions, distortions or untruths. So, the results of inquiry among as many informants as possible will be a many-sided aid for the field data. If this method be carefully employed, it will surely give a depth of comprehension of facts.

The oldest method of collecting field data is what may be called the *Notes-and-Queries* method. In it, a comprehensive questionnaire covering all aspects of the life of the people with whom contact is made, is employed for gathering facts. It is based on the following assumptions :

(1) That the cultures of primitive peoples are on the verge of extinction ; so anthropologists should collect as much information as possible while they are still in existence.

(2) That there are not enough anthropologists to do this ; so untrained persons, such as administrative officers, missionaries, traders and travellers are employed to hasten the enquiry.

A non-anthropologist following the *Notes-and-Queries* method collects a large mass of facts from the field ; but they yield little information about how these facts are inter-related in the whole cultural life of the people. A trained anthropologist arranges his facts round a conceptual scheme that guides his research and in terms of hypotheses that frame his problem.

A special technique for the collection of field data that has been effectively employed is the Genealogical Method, used first by Rivers in his Torres Straits Expedition. This method helps in gathering a large range of facts concerning the social structures and other institutions of the people being studied. In applying this method, the simplest kinship terms, father, mother, son, daughter, husband and wife, are used. The informant is asked the name of those who stand in these relationships with him. He is given to understand that only the biological kins are to be included and not those who are cousins. He is also asked as to how he

addresses each, how others address him, and thus the kinship terminology is built up. This process is repeated and extended. Rivers stated that, 'The genealogical method makes it possible to investigate abstract problems on a purely concrete basis. It is even possible by its means to formulate laws regulating the lives of people which they have probably never formulated themselves, certainly not with the clearness and definiteness which they have to the mind trained by a more complex civilisation'. This Genealogical Method is however not usable everywhere. Rivers states that in some societies an obstacle may be 'the existence of a taboo on the names of the dead, and this can sometimes only be overcome with difficulty'. He further stated, 'In my own experience, I have been compelled in consequence of this taboo to obtain the pedigrees in secret and from persons not of the family in question'. The same difficulty was also experienced by the writer when he worked among the Bunas of Bengal, while collecting their genealogies. Women did not utter the name of their husbands. To utter the name of the husband is taboo to a woman in Buna society, as it is in the rest of Hindu society in Bengal.

A great obstacle is usually encountered during field investigation in respect of language. An anthropologist, when going to the field, should be linguistically equipped to render in accurate phonetic transcription the names of the people, places etc. The other alternative is to engage an interpreter. The interpreter should be trained by the anthropologist to be under his full control and should be enthusiastic about the nature of his work. The interpreter will then naturally be a most valuable informant, and he will often expand on a reply or himself offer significant information. Engaging more than one interpreter is essential, as this ensures a more adequate check on the information obtained.

In anthropological field-work the conception and the approach derive from the fact that the problem is essentially human in nature. That is why honesty of purpose is really important, because the anthropologist is observed far more intensely by the people he has come to study than he can ever observe them and a false step is soon noted. That is why sensitivity is also an important

factor. Sometimes when an opposition to his investigation develops, an alertness of the requirements of the people, an ability to give way peacefully at the right moment and a politeness or tactfulness can ease a difficult situation. Here, a sense of humour is of great value. An anthropologist should talk with full affection to his friends among the people with whom he is to work. So an anthropologist with honesty, sensitiveness and an abundant sense of humour, finds the horizon of the field clear inspite of unavoidable difficulties and frustrations in his path.

M. N. Basu
Lecturer, Calcutta University.

MARA PUBLIC LIBRARY
14 APR 1953
MADRAS

BOOK REVIEWS

Kadar of Cochin. *By U. R. Ehrenfels. University of Madras. 1952. pp. 319. Price Rs. 10/-.*

Dr. U. R. Ehrenfels, Head of the Department of Anthropology, University of Madras, has described in the present volume one of the most interesting tribes who inhabit the extreme south of the Indian peninsula. Economically, the Kadar of Cochin are collectors of food instead of being producers. Their principal collection consists of edible roots and honey from the deep tropical forests of Cochin and Travancore. They are also, nowadays, employed extensively as labourers by the Forest Department of the Government. It is not unlikely that at one time they subsisted entirely on the natural produce of the jungle; but a reference to the list of articles used by them rapidly convinces one that they have been very deeply influenced by the neighbouring agricultural population; so much so that, like the latter, they use brass vessels, European shirts and blouses, *dhotis*, jewellery and so on. The articles collected by them nowadays are also principally for sale; and the money so acquired is employed in the purchase of various necessaries from Hindu traders and craftsmen. This means that, economically, they are no longer in the 'Hunting and Collecting Stage', but have become part and parcel of the larger economy of the region, within which both Hindu castes and outside tribes find a place as producers of specialized goods. The Kadar, among them, have taken to the collection of things from the forest regions. And all these goods are exchanged with the help of money.

Dr. Ehrenfels is however of opinion that, in spite of the above tying-up into a larger money economy, and a consequent change in their life and culture, we do find numerous elements among them which are survivals from their primitive, aboriginal condition. The bamboo combs and designs carved on them have resemblances with those of the Negrito tribes of Malaya. There are also similarities in tree-climbing methods, with regard to the chipping of teeth, and so on; and one of the author's principal

tasks has been to reconstruct the earlier culture of the Kadar with as much fullness as possible.

The method, or logic, employed by Dr. Ehrenfels has been more or less like this : When a culture element is found among the Kadar and not among the Hindus, it is taken to be a 'survival'. A custom or even element of thought which is present among them but which runs counter to the apparent genius of Hinduism, is also taken to be a similar survival and not a recent introduction. An illustration will help to make this clear. In Chapter VIII, the author describes how the idea of a mother-goddess has taken several forms among the Kadar. He says : 'This goddess (Athuvacherry Ammal) is often being described as the daughter, or the creation, of *Malavy* and *Malankuratti*, the Kadan gods *par excellence*. These circumstances and also the particular affection, shown to the deity, suggest that the female aspect of the divine played a not negligible role in Kadan religious thought, even before Kaliworship may, as a first step in the acculturation process, have been introduced from the plains, and adapted by the Kadar, perhaps not very long ago' (p. 188). Flowers are used by the plains people as well as by the Kadar for decorating their body. Dr. Ehrenfels writes: 'Seeing the intense joy of these hill children, who had not yet been to the plains, where they could have seen the orthodox flower ornaments in the hair of the plains women, it appeared improbable to believe that this art of flower deco ration should have been borrowed from the plains. The opposite course, rather, is suggested by the original sureness of the aboriginal children in decorating their hair and ears with flowers' (p. 82).

It has been, more or less, this kind of argument and logic which has been employed in the reconstruction of the past elements, not only of material life, but also of the religious philosophy and social organization of this ancient, but much-altered, people. In the reviewer's opinion, dependence on logic of this kind is not always justified, even when it does not reach the precarious level.

Dr. Ehrenfels has tried to fortify his findings by some amount of comparative material and a partial dependence on the time-interpretation of data with regard to space and tribal distribution.

This has been done with regard to the use of the bow and arrow, for instance (p. 274). He has permitted himself, in a similar manner, to draw conclusions from the physical similarity of the Kadar with the Negrito tribes of Malaya, who have been frequently referred to as a 'physically kindred people' (p. 277); the obvious implication being that the Kadar and the Negritoes are not only physically, but also culturally, equable to one another.

In regard to the references to physical anthropology, the reviewer feels that the terms 'Negritoid', 'Proto-Australoid', or even descriptive terms like 'woolly', 'frizzly' etc. have been employed without the proper degree of precision.

But these apparent points of weakness should not be allowed to overshadow the obvious merits of the book. Dr. Ehrenfels has spared no pains in gathering all relevant facts connected with the life of the Kadar; and, in a most interesting section, he has given us a wise programme for the education and uplift of this fast decaying tribe. He is full of love and sympathy for the Kadar, and this in itself should be one of the most important qualifications of a field anthropologist.

N. K. Bose

Man in Evolution. *By M. R. Sahni. Orient Longmans Limited, Bombay. Price Rs. 8/12.*

This book from the pen of a distinguished palaeontologist covers the major aspects of the story of evolution. The reader is told how the earth's crust came into being, how animals and plants became altered in course of geological time, and how finally humankind arose and became, in body and in mind, what we find him today. The compass is widely laid, and the treatment is also designed for those who are entirely new to the subject. On the whole, Dr. Sahni's book is a satisfactory production. It suffers however from two limitations which detract from its merit as a text-book meant for students. The style often runs down to that of a feature-writer of newspapers, while an unnecessary dose of heavy, learned material has been served to the reader at times. Some of the facts have been rather carelessly put in, leading even to an inaccuracy of statement. These

could have been easily weeded out from the stock which is designed to be sown into youthful minds.

N. K. Bose

Transformation Scene. *By Ian Hogbin. The International Library of Sociology and Social Reconstruction. Routledge & Kegan Paul Limited, 1951. xiv+326 pp. 16 plates (22 illustrations), 2 maps. Price 30s.*

The village of Busama, situated south of Lae in the Huan Gulf, has had to pass through a variegated history. The inhabitants are principally gardeners ; but they also do some amount of fishing, hunting and collecting. This portion of New Guinea was however caught in the thick of the World War, and the simple villagers have had to go through strange, and very often, very painful experiences.

Professor Hogbin has given in this book an admirable, detailed description of the actual conditions of life in the village. He has likewise shown how social leadership fared during the Japanese occupation, and how also the people have been coming back to their own normal condition after the restoration of peace.

One of the principal factors affecting the social life of Busama has been its contact with distant villages as well as with the larger world outside. This came about through direct participation in the war. There has, in consequence, been a loosening of the old social ties and a new growth of political consciousness. The White man's prestige has also gone down to a very appreciable extent. But, on the whole, the people still maintain their low power of productivity. They have to be taught to lift themselves above their present poverty, and do so mainly by means of their own effort. Professor Hogbin has suggested suitable means for doing so.

The Appendices containing the results of survey of vital statistics, food conditions, daily work schedules etc. will prove helpful to anthropologists carrying on similar investigations elsewhere.

N. K. Bose

The Aymara of Chucuito, Peru (1. Magic). *By Harry Tschopik Jr. Anthropological Papers of the American Museum of Natural History, New York. Pp. 133-308, 10 plates, 11 text figures, 1 table. Price $ 3·00.*

The book is the result of intensive field investigation among the Aymara Indians of a small village named Chucuito, for about two years and a half. In the present volume, the author has dealt with the beliefs and cults associated with Magic in the general background of the culture-pattern of the group.

Unlike traditional anthropologists, the author is not satisfied with a mere enumeration of the detailed elements of different aspects of magical beliefs and practices ; he has tried to explain their occurrence in the group in response to definite psycho-biological needs, particularly with reference to the relation between the individual and the society under which he lives. 'It is the hypothesis of the present study that magic continues to perform certain very real functions with respect to the individual Aymara's problems of anxiety and hostility and that the pattern assemblage, in part as a consequence of these functions, makes certain important contributions towards maintaining social equilibrium in the community of Chucuito'. The author depicts the precarious economic and social existence of the Aymaras under the domination of the Mestizos, and concludes that magical practices originated mainly as a defence-mechanism against the general feeling of insecurity bringing in anxiety, submissiveness in the individual.

He has also attempted a correlation between some significant aspects of Aymara personality and the orientation of supernatural beliefs—divination with irresponsibility, obedience to supernatural beings with habitual submissiveness, and so on. These correlations have to be worked out in greater detail before they can be generally accepted. The author could have fruitfully utilized a comparative study of supernaturalism among the Mestizos with their superior socio-economic status along with his claim that the general character of Aymara supernaturalism has been influenced by their socio-economic inferiority.

Apart from its interpretative portion, the book is also very valuable for its exhaustive and painstaking collection of data and

the numerous case-studies. The photographic illustrations are of high quality.

S. C. Sinha

History and Culture of The Indian Peoples Vol. I. The Vedic Age. *General Editor, R. C. Majumdar. London. George Allen and Unwin Ltd.*

The volume is divided into seven books. Book I is introductory and deals with the nature, scope, method and sources of Indian history in connection with the Ancient, Mediaeval and Modern periods. The authors have pointed out that the chief difference between the history of India and that of other ancient countries lies in the continuity of her civilization. Book II contains articles on the Palaeolithic, Neolithic and Copper Ages by H. D. Sankalia ; Race-movements and Pre-historic cultures by S. K. Chatterji, and on the Indus Valley civilization by A. D. Pusalker. In course of his essay, Prof. Chatterji remarks that we are perhaps more justified in speaking of language-cultures than of race-cultures. In some cases, 'the economic milieu transcends the diversity of language and language-culture'. Books III and IV are devoted to the Vedic Age proper. The problem of the original home of the Indo-Europeans and the problems relating to Vedic literature, as well as the relation between the Indian and Iranian peoples, have been very ably discussed by B. K. Ghosh.

A general bibliography has been given at the end, while a bibliography added to Chapter IX provides us with a list of almost all important contributions on the Indus Valley civilization.

The publication will prove indispensable to all students of Indian history and culture.

L. K. Ray.

Contemporary Indian Philosophy. *Edited by S. R. Radhakrishnan, D. Litt., F. B. A. and J. H. M. Ll. D., F. B. A. London. George Allen and Unwin Ltd. Museum Street. Second Edition.*

This admirable book is a collection of philosophical essays

from the pen of representative Indians like Rabindranath, Gandhi and Radhakrishnan.

The studies cover problems of Religion, Art, Psychology, Ethics, Sociology etc. and give a clear indication of India's thought in these directions during the twentieth century. We are sure the book will be greatly appreciated by all students and lovers of Indian life and culture.

L. K. Ray

The Real Tripitaka and other Pieces. *By Arthur Waley, London. George Allen and Unwin Ltd.*

Part I of the book under review contains the story of Hsuan-Tsang, the Chinese monk who travelled through India in the seventh century in the quest of Buddhist scriptures. 'Real Tripitaka' was the title conferred on him by the Emperor Tai Tsung. The life of this monk was shrouded in mystery, but the author has succeeded in recovering many facets of that interesting story. The second part of the book gives us an account of the pilgrims who visited China from Japan at different times in the ninth century. Here we are given the picturesque account of U. F'ai Shan, China's great place of pilgrimage. The description of the persecution of the Buddhists in the middle of the ninth century makes sad reading.

The second part of the book gives us ten Chinese and Japanese tales, and three more stories written by Dr. Waley himself in the Chinese style.

L. K. Ray

My India. *By Jim Corbett. Oxford University Press, Amen House, London. Price Rs. 6-12-0.*

The book contains sketches of village life and the scenes centre round Nainital and Mokamaghat where the author has worked and lived. The simple folk whose ways and characters have been depicted, are those among whom he spent the greater part of seventy years. The pictures have been drawn with sympathy and kindness and at the same time with precision, and we love, enjoy and suffer with the author as we go through this delightful book.

H. D. Ghosh

'The Acta Ethnologica et Linguistica' No. 3.

This contains some physico-anthropological investigations among some tribes of Central India. The author, the Rev. W. Koppers, S. V. D., publishes his somatic observations on a number of tribes, viz. Bhil, Korku, Nahal, Gond and Baiga. The book contains articles on the colour of the skin, the eyes and the hair ; the form of the hairs covering the head ; metric and morphological characteristics of the head and face, nose, ear and chin. The last article is an essay on the size and measurement indexes of the body. X.

The Trimestrial Revue (*October-December 1951*) *of the Society for the Promotion of Indo-Chinese Studies.*

'Fifty years of French Orientalism' contains a series of very learned and interesting articles on the following subjects : Studies of the Geography, History, Archaeology and Geology of Indo-China. It publishes furthermore a study on its Prehistory, Ethnology and its races. Finally there is an interesting article on Buddhism in Tibet, Central Asia and Japan and another on Indian and Chinese classics. X.

NOTICE

Subscribers whose dues are in arrears are requested kindly to remit their arrears and current subscriptions to the Manager, Man in India, 18, Church Road, Ranchi, Bihar, India, so that the continuity of the service may be maintained. Publications meant for exchange must be sent to the office of the journal at Ranchi.